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BEFORE THE
U.S. DEPARTMENT OF TRANSPORTATION
OFFICE OF THE SECRETARY
WASHINGTON, D.C.

U.S.-U.K. Alliance Case	**Docket OST-2001-11029** -31

ANSWER OF VIRGIN ATLANTIC AIRWAYS LIMITED TO JOINT APPLICATIONS OF AMERICAN AIRLINES, INC. AND BRITISH AIRWAYS PLC AND JOINT APPLICATIONS OF UNITED AIR LINES, INC., BRITISH MIDLAND AIRWAYS LIMITED, *ET AL.*

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Dated: December 17, 2001

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I. Introduction

1. Pursuant to DOT Order 2001-11-10, 1/ Virgin Atlantic Airways Limited ("Virgin Atlantic") hereby files this Answer in response to: (a) the joint reply of American Airlines, Inc. ("American" or "AA") and British Airways plc ("British Airways" or "BA") as set out at Docket Number OST-2001-10387-129 of November 9, 2001; (b) the statements from Janusz A. Ordover and Milena Novy-Marx (at Docket Number OST-2001-10387-117), Professor Alfred E. Kahn (at Docket Number OST-2001-10387-118) and Jan K. Brueckner (at Docket Number OST-2001-10387-119) in support of the AA/BA alliance

1 In Order 2001-11-10, the Department instituted the above captioned proceeding and consolidated into it the pending American Airlines/British Airways proceedings (Dockets OST-2001-10387 & 10388) and United Air Lines/British Midland/et al. proceedings (Dockets OST-2001-10575 & 10576).

proposals; and (c) the joint application of United Airlines, Inc ("United" or "UA"), British Midland Airways Limited ("bmi british midland" or "bmi" or "BD") *et al* for antitrust immunity as set out in Docket Number OST-2001-10575-1 of September 5, 2001.

II. Summary

2. As Virgin Atlantic has shown in its original Answer2, the Department should reject the application from AA/BA for antitrust immunity. This alliance will clearly be anti-competitive and will not, therefore, be in the public interest. Virgin Atlantic has already placed on the record an extensive submission in opposition to the AA/BA alliance proposals3 in which it has highlighted their anti-competitive nature and the inconsistencies in the arguments put forward by American and BA. Nothing in the joint reply by American and BA proves otherwise. Everything in Virgin Atlantic's earlier submission remains valid and is amply and adequately supported by the other submissions and statements in opposition, including those from Delta, Northwest, Continental and Mr. Michael Levine. The latter's

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2 See US DOT Docket No. OST-2001-10387-98
3 See Docket Number OST-2001-10387-98

submission is particularly important given the fact that Mr. Levine is highly respected in both economic and aviation circles, and that it has been submitted as an independent comment.

3. AA and BA are attempting to obtain regulatory clearance to participate in anti-competitive and collusive activities both across the Atlantic and throughout their respective networks. The same is true of United, bmi british midland and their Star partners. Virgin Atlantic is opposed to these attempts to form legalized cartels. If approved, AA and BA will form a dominant force in the trans-Atlantic aviation market, with over 60% of Heathrow-US markets in total and around 65% of the Heathrow-New York-JFK market4, the largest trans-Atlantic market by a wide margin. The position of joint dominance that oneworld and Star enjoy at Heathrow, when coupled with the undeniable fact that Heathrow is effectively full, means that carriers outside of these alliances will not be able to mount an effective competitive challenge to AA/BA unless the competition authorities apply substantial remedies, including the divestiture of a

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4 Percentage figures based on frequency shares.

significant number of Heathrow slots. Coupling open skies with immunized alliances actually leads to a lessening of competition. Dominant carriers get bigger as smaller carriers are squeezed out of the market.5 The sheer scale of the AA/BA and UA/bmi virtual mergers will mean that their effect will not be solely felt in the trans-Atlantic market, but throughout the globe, especially in the travel agency and corporate account sectors.

4. In spite of the fact that the proposed alliance irrefutably establishes an extreme violation of US antitrust merger guidelines, the joint applicants claim that those responsible for protecting the traveling public from monopolistic abuses need not worry because new entrant airlines will easily be able to enter US-Heathrow markets and discipline, if not dissipate, the apparent market power created by an AA/BA alliance. Virgin Atlantic takes particular offense at these fabrications. There are no suitable slots available at Heathrow Airport. None.

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5 See pp.118 and 119 of Virgin Atlantic's Answer at Docket No. OST-2001-10387-98.

5. In the past three years, Virgin has been frozen at 63 weekly (nine daily) round trip services. United has been able to add but one daily round trip service in that same period. BA and American, between them, have managed to add but two round trips in the last three years. OAG, August, 1999, 2000 and 2001. When Virgin determined to enter the Chicago-Heathrow market, it could obtain no new Heathrow slots despite attempting to do so over a lengthy period, and was obligated to discontinue its Miami-Heathrow service to fund the Chicago service. See Answer of Virgin Atlantic, November 2, 2001, at 85. When Virgin determined to enter the Toronto-Heathrow market, it could find no Heathrow slots, again despite attempting to do so over several seasons. As a consequence, Virgin was forced to enter the Toronto market from Gatwick, where it was forced to compete against a host of Heathrow services, and ultimately was forced to withdraw from the market entirely.

6. And contrary to what British Airways says in this proceeding, we all know what that carrier has been doing for the last several years. As Virgin Atlantic demonstrated in its November 2, 2001 submission, British Airways has not been able to commence new Heathrow

services other than by terminating existing services. Since 1994, British Airways has dropped 21 short haul services at Heathrow to fund slots for more lucrative business point-to-point markets. Virgin Atlantic Answer at 81; see Exhibit NW40.

7. Despite these stubborn facts, British Airways perseveres in its "Big Lie" strategy. Virgin determined to put British Airways' claims to the test of truth. Recently Virgin Atlantic's Chairman, Sir Richard Branson, challenged BA's Lord Marshall to, like Jerry Maguire, "show Virgin (and the rest of the world) the slots." Virgin Atlantic invited BA to provide Virgin Atlantic with ten pairs of slots for its use seven days a week, 365 days a year. Sir Richard promised that if BA could provide the slots, Virgin would donate £2 million for each pair so provided to a charity of Lord Marshall's choice. If Lord Marshall could not make good on his claim that Heathrow slots are readily available, Virgin Atlantic invited him to make a corresponding contribution of £2 million per pair of slots not provided to the International Red Cross, the charity of Virgin Atlantic's choice. BA have declined to take up this challenge, which shows the falsity of their previous claims.

8. If the actual experience of the incumbents at Heathrow (and Virgin's challenge) are insufficient proof for the DOT that there are no slots available at Heathrow, we respectfully urge the DOT to read the official filing made with the US Department of Transportation by ACL, the Heathrow slot coordinator. In response to the DOT's request that the ACL present its unbiased and informed assessment of the slot situation at Heathrow, ACL has advised that it will be impossible to accommodate ***any*** new service to the United States for the foreseeable future. ACL states that, at best, it might be able to accommodate one new daily round trip between the United States and Heathrow, but only at times that passengers do not want to fly: a late evening arrival at Heathrow, and a mid afternoon departure. ACL Response at page 5. The British Airport Authority's view is the same. See Response from BAA plc at 8.

9. Anticipating that they will be unable to persuade US or European decision-makers that Heathrow slots are easily available, the joint applicants claim that airlines desiring to serve Heathrow will be able to secure Heathrow slots from their alliance partners. This seems unlikely. As the slot coordinator has advised, incumbent Heathrow

carriers are reluctant to part with their slots. ACL response at 5. Moreover, the holders of those slots have indicated that they will not be willing to part with them for competitive reasons in their home markets.

10. More to the point, most carriers do not have Heathrow partners to serve as benefactors. Virgin has no such partner, nor does Continental or US Airways. These US airlines have no way of entering Heathrow, and Virgin Atlantic has no way of expanding.

11. Perhaps the strongest evidence that there are no slots to be had at Heathrow resides in an obscure statement by the Dallas/Ft. Worth parties. In a footnote on page five of its November 2 submission, the Dallas/Ft. Worth parties have publicly stated, based on confidential documents, that American and British Airways do not intend to serve DFW-Heathrow until at least 2004. In its reply, American and British Airways make no attempt to rebut or explain this disclosure. This is a stunning revelation. Dallas/Ft. Worth is American's largest hub, its corporate headquarters, and the source of much of its civic and political support. American has been promising Dallas/Ft. Worth

nonstop service to Heathrow for years and has, as a result, secured its faithful support throughout the open skies/antitrust immunity process. Why would American and British Airways do this? First, because contrary to their rosy assurances about Heathrow slot availability, American and British Airways cannot themselves find Heathrow slots to fund service from American's largest and most important hub; second, because there is no conceivable source of competition for American/British Airways on the DFW/London route; and third, because their absolute monopoly in this market enables them to provide inferior service to Gatwick and thereby conserve 21 precious weekly Heathrow slots for competitive markets where Virgin Atlantic competes with one hand tied behind its back: Boston, New York, Los Angeles, Chicago and Miami.

12. This places Virgin Atlantic and other Heathrow rivals in a precarious position. The certain knowledge on the part of American and British Airways that Virgin Atlantic is frozen at Heathrow frees them to concentrate their scheduling firepower against Virgin Atlantic without any concern that it can make a competitive response.

13. This proceeding thus presents an unusually compelling case for aggressive government intervention to preserve competition. The danger is not merely that extreme market power will be created, or that there are barriers to entry for new entrants, although these two factors should be enough to guarantee disapproval. Here, there is an additional danger, namely that existing rivals, such as Virgin Atlantic, which are the most important sources of competitive discipline to a monopolist, are utterly precluded from making competitive responses to capacity increases by the monopolist. With its huge slot portfolio, made even larger in the oneworld alliance, AA/BA have access to almost 50% of Heathrow's slots. Virgin Atlantic has access to just over 2%. Virgin Atlantic already uses the largest aircraft available in most Heathrow-US markets, so it cannot increase its seat capacity. When American and British Airways come after Virgin Atlantic with predatory scheduling attacks, it will be powerless to answer.

III Establishment of AA/BA and United/bmi Alliance Will Establish a Position of Joint Dominance.

14. Virgin Atlantic provided extensive evidence on the issue of the collective dominance of oneworld (AA/BA and their partners) and the

Star Alliance (United/bmi and their partners) in its Answer to the AA/BA Joint Application (see paragraphs 107 to 140 of US DOT Docket No. OST-2001-10387-98). That evidence remains valid. However, Virgin Atlantic wishes, in light of the Department's decision to consolidate proceedings in the AA/BA and UA/BD cases, to supplement that evidence further as well as, by reference, to apply it to the United/bmi Joint Application originally filed at US DOT Docket No. OST-2001-10575-1 and to the consolidated proceeding under US DOT Docket No. OST-2001-11029.

15. To be clear, Virgin Atlantic's view is that an AA/BA alliance would create a position of dominance for that alliance, and Virgin Atlantic does not accept the arguments that AA and BA have put forward that the presence of United, bmi british midland and their Star Partners will in some way mitigate this anti-competitive position. However, even if the Star Partners can be credited with this effect, at the very best all that that would create is a position of joint dominance between AA/BA and the Star Alliance in the Heathrow-US markets, at Heathrow itself, as well as in the more general global aviation market.

16. There can be no doubt that the establishment of immunized alliances for AA/BA and UA/BD will create a position of joint or collective dominance. Table 1 below shows that in the seven Heathrow-US markets where both alliances currently operate6, the oneworld and Star alliances will be in a position of joint dominance, both in terms of frequencies offered and passengers carried. Furthermore, looking at the broader Heathrow-US market, Star and oneworld between them will control 85% of all services (a proportion that may well increase as competitors are forced out of the marketplace, or as United utilizes bmi's slots for the expansion of its own services). Star and oneworld also control three-quarters of the slots at Heathrow.

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6 These markets represent 7 of the 8 largest US-UK airport pair markets in terms of passenger numbers.

Table 1: Oneworld and Star Alliance Market Shares from London
Source: OAG August 2001 & US DOT T100 Jan-Dec 2000

Market	Oneworld/Star Combined Passenger Share	Oneworld/Star Combined Frequency Share
Heathrow-New York JFK	67.3%	78.4%
Heathrow-Newark	67.3%	80%
Heathrow-Chicago7	84.5%	87.6%
Heathrow-Los Angeles	74.3%	75%
Heathrow-San Francisco	76%	71%
Heathrow-Washington	77.5%	85%
Heathrow-Boston8	100%	100%

17. Michael Levine, a widely respected economist and aviation analyst, has spoken out against a situation (the approval of AA/BA and UA/BD) that he perceives will "ultimately end in duopoly"9. As Mr. Levine puts it:

> "That competition is suppressed among immunized alliance partners is a given – that is the point of the request for immunity. The only competition that can be provided to immunized partners must come from non-affiliated competitors. In such competition, it is commonplace that, while two competitors are better

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7 These market shares have now increased to 100% respectively following the decision of both Virgin Atlantic and Air India to withdraw from the Heathrow-Chicago market.

8 Virgin Atlantic has recently moved its Boston service to Heathrow. If this service is included in the above figures the combined oneworld/Star market share figures for frequencies would be 85.7%.

9 See p.2 of Docket No. OST-2001-10387-154

> than one, three or much better four competitors provide very significant public benefits when compared with a duopoly, especially a duopoly shared between firms that meet each other in most other markets."10

18. Mr. Levine continues by saying:

> "The end result is that allowing AA/BA and UA/BD to form immunized alliances without ensuring other...airlines the opportunity to access Heathrow at competitive frequency from all their hubs will ultimately tend to create a worldwide duopoly of network competitors. It will be impossible to 'crack' this duopoly as long as transatlantic access to Heathrow by would-be competitors can only be gained by dismantling Heathrow access from somewhere else." 11

I. Rebuttal of the Joint Reply of American Airlines and British Airways of November 9, 2001. 12

19. In this section of its Answer Virgin Atlantic deals in some detail with the various counter-responses and statements made by American and British Airways in their joint reply of November 9. As could be expected, AA and BA have sought to manipulate facts and statements in order to support their own weak case for immunization. This

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10 See p.2 of Docket No. OST-2001-10387-154

11 See p.5 of Docket No. OST-2001-10387-154

12 See Docket Number OST-2001-10387-129

rebuttal follows the order and titles used in the joint reply from American and British Airways. Where Virgin Atlantic has not rebutted a particular issue it should not be seen as acceptance that the case put by American and British Airways is correct. It is merely that Virgin Atlantic stands by the case set out in its previous submission on this matter. 13

"There is a narrow window of opportunity for the US and the UK to conclude an open skies agreement"14

20. The issue should not be one of timing. The true issue at stake here is whether the proposed alliance between American and British Airways is really pro-competitive and pro-consumer as the Joint Applicants claim. This is something that can only be assessed by a thorough and exhaustive examination of the proposals and their likely impact on the competitive environment for trans-Atlantic services by the appropriate competition authorities. What American Airlines and British Airways are seeking to do is trade a new, and admittedly more liberal, Air Services Agreement between the US and the UK for

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13 See Docket No. OST-2001-10387-98

14 See p.3 of Joint Reply of American Airlines, Inc and British Airways plc, US DOT Docket No. OST-2001-10387-129

immunization of their alliance. This is inherently wrong. If both Governments were convinced of the benefits of an "open skies" agreement then such an agreement would already be in place.

21. The fact that similar trade-offs have happened in the past, notably in the cases of Northwest/KLM and Lufthansa/United, does not mean that it would be right to do so in this case. All those previous cases demonstrate is a desire from the Dutch and German Governments to protect their own flag carriers (by ensuring that open skies was not signed unless antitrust immunity was assured). In any event the net result of those deals was to help their flag carriers and their partners in their immunized alliances become even more dominant in local markets (see pages 118 and 119 of Virgin Atlantic's Answer to the AA/BA application at Docket Number OST-2001-10387-98).

"Contrary to the Opponents' arguments, the US-UK market is highly competitive and will remain so following approval of the AA/BA alliance and open skies"15

22. American and British Airways claim that "[r]ather than engage in an analysis of the competitive effects of the proposed American/British Airways alliance – one which takes account of significant changes on the US-UK market conditions since the applicants first announced an alliance in 1996 – the opponents present conclusory assertions that the alliance will be 'dominant' and 'reduce' or 'eliminate' competition"16 There are several mistakes with this statement.

23. First, as shown in Virgin Atlantic's earlier submission17, the only changes that have occurred in the US-UK market conditions are ones that make market entry even more difficult because Heathrow airport

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15 p.6 of Joint Reply of American Airlines, Inc and British Airways plc, US DOT Docket No. OST-2001-10387-129

16 p.6 Joint Reply of American Airlines, Inc and British Airways plc, US DOT Docket No. OST-2001-10387-129.

17 See paragraphs 44 and 45 of US DOT Docket No OST-2001-10387-98.

is now effectively full. This is a view supported by Delta, Northwest and Continental in their respective submissions18 and more importantly in the submissions from BAA plc and Airport Co-Ordination Limited.

24. Second, it has been clearly demonstrated by numerous interested parties that the American/British Airways alliance will be "dominant", and will "reduce" and, in some circumstances, "eliminate" competition. A whole host of market data, based on both passengers carried between various city pairs and on the frequencies operated, has been placed before the Department19. In terms of passengers carried, BA and AA between them enjoy a 100% market share in 15 US-UK airport pairs20 (data based on US T100 returns for the period

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18 See Section III of US DOT Docket No: OST-2001-10387-104 (Delta), Section IV of US DOT Docket No. OST-2001-10387-112 (Northwest), and Section V of US DOT Docket No. OST-2001-10387-109 (Continental)

19 See Tables 25 and 26 appended to Virgin Atlantic's submission at Docket No OST-2001-10387-98, and other information contained therein. See also pp. 19 to 25 of Continental's Answer at Docket No OST-2001-10387-109, and pp 11 to 13 of Northwest's Answer at Docket No OST-2001-10387-112.

20 Heathrow to Detroit, Heathrow to Miami, Heathrow to Philadelphia, Heathrow to Seattle, Heathrow to Baltimore (previously a Gatwick route), Gatwick to Denver, Gatwick to Dallas/Ft Worth, Gatwick to New York-

January to December 2000), and a market share of more than 50% in 20 such markets. In terms of frequencies operated, in all but 6 of the airport pair markets from London in which the two airlines operate, AA/BA have a market share of 50% or above, and they are the sole operators in 13 airport pairs from London. Overall, AA/BA accounts for 60.5% of Heathrow-US frequencies, and 56% of Heathrow-US passengers. By any definition this equates to dominance of a market.

25. In addition, the amalgamation of two competitors into a single non-competing alliance by definition reduces competition. And when those competitors are such huge players in both the trans-Atlantic market and global aviation markets21 as American and BA are, their leverage of their market strength and dominance which will inevitably follow, is highly likely to lead to the elimination competition.

JFK, Gatwick to Phoenix, Gatwick to Raleigh-Durham, Gatwick to San Juan, Gatwick to St Louis, Gatwick to Tampa, Birmingham to Chicago, Glasgow to Chicago.

21 American is the world's largest airline and British Airways Europe's largest airline.

"The AA/BA Proposal is a competitive response to the growth of International alliances, not an attempt to dominate local markets"22

26. AA and BA complain that their oneworld alliance is in a comparatively weak position when compared to other airline alliances in Europe. To illustrate this point they rely on tired arguments that BA and its partners only control around 47% of the slots at Heathrow compared to the greater amounts of slots that Star controls at Frankfurt, KLM/Northwest control at Amsterdam and Skyteam controls at Paris-Charles de Gaulle23. While the facts cited by BA/AA here are true, they are also wholly irrelevant. What matters most is ease of access to commercially viable slots. British Airways has itself acknowledged on numerous occasions that unlike Continental European hubs, Heathrow is effectively full24. Potential new competitors are unable to gain slots for new services and US carriers

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22 p.8 of the Joint Reply of American Airlines, Inc and British Airways plc, US DOT Docket No. OST-2001-10387-129

23 See pp. 11 and 12 of the Joint Reply of American Airlines, Inc and British Airways plc, US DOT Docket No. OST-2001-10387-129.

24 See various statements from British Airways set out in Virgin Atlantic's Answer at paragraph 81 of Docket No. OST-2001-10387-98.

have confirmed that unlike at Heathrow, they have invariably been able to obtain viable slots at Continental European hubs. In the absence of significant slot divestitures from AA and BA, new Heathrow-US services will only be possible on any scale by the displacement of other services. Furthermore, alliance partners of non-incumbent Heathrow carriers have already ruled out handing their valuable Heathrow slots to their partner airlines25.

27. As already demonstrated in Virgin Atlantic's earlier Answer to the AA/BA proposals, American and British Airways are currently competitors in the broader EU-US market. American operates from its US hubs to various points throughout Europe (527 flights per week to a total of 8 airports, excluding services to the UK) carrying around 1.5 million passengers per annum26. In addition, nearly 30% of British Airways' passengers on its services between London and the US are connecting to/from Europe, and nearly half of its passengers on its US services make connections at London. A third of American's

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25 See p.31 of Northwest's Answer at Docket No. OST-2001-10387-112 and p.27 of Delta's Answer at Docket No. OST-2001-10387-104.

26 In 2000 AA (including TWA services) carried 1,470,235 passengers on services between the US and Europe (excluding the UK).

passengers on its services from London make connections at London, with nearly 19% connecting to points in Europe. Clearly, even in the absence of an immunized alliance, these carriers are already effectively competing against the Star Alliance operations at Frankfurt, Wings at Amsterdam and SkyTeam at Paris, by leveraging BA's extensive short-haul network at Heathrow.

28. AA/BA also cite the fact that other alliances already have immunized arrangements in place as a reason why they should be allowed to proceed with their proposals. That is plainly not a reason to grant AA and BA antitrust immunity. AA and BA should only be granted such immunity if their own proposals are found not to raise significant competition concerns and are found not to be against the public interest. As all of the evidence points to the proposals being anti-competitive and anti-consumer the Department should dismiss the application forthwith.

"The US-UK Marketplace has become increasingly competitive"27

29. In their reply at page 13, footnote 6, American and BA seek to undermine the data sources used by Virgin Atlantic to demonstrate the market share and strength that American and BA have. AA and BA claim that the CONCRS passenger booking data that they have used give a more accurate picture of the competitive position than the US DOT T100 and UK CAA Survey data that Virgin Atlantic has used in its analysis of the AA/BA case. It should be noted that the CONCRS data is far from perfect, something which AA and BA themselves admit: "CONCRS data report the number of passengers booking tickets, not necessarily those that actually fly...CONCRS does not represent all bookings...it is impossible to know the exact percentage of total bookings represented by CONCRS data..."28.

30. In contrast the US DOT T100 data cover all passengers that were on all flights either arriving or departing a US gateway. This data,

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27 p.13 of the Joint Reply of American Airlines, Inc and British Airways plc, US DOT Docket No. OST-2001-10387-129

28 See p.3, footnote 5 to Appendix D.1 to the Joint Reply of American Airlines, Inc and British Airways plc, US DOT Docket No. OST-2001-10387-129

unlike the CONCRS data, can be independently verified as it is available to the public.

31. In undertaking an analysis for antitrust immunity, in a perfect world, both of the above mentioned data sources would be useful in assessing the effects of the alliance on competition. In this particular case, where there is a distinct barrier to entry (i.e. the scarcity of slots at Heathrow), it is not prudent to undertake all of the analysis based on just one particular data source, particularly one such as CONCRS that is intrinsically flawed by virtue of the fact that it ignores the majority of bookings. For example, in the case of Gatwick – Dallas/Ft. Worth, the AA/BA CONCRS data show the O&D traffic levels to be only 147,267 passengers, but this is only 36% of the traffic that was actually carried by AA and BA on their direct non-stop service between Gatwick and Dallas/Ft.Worth (see Table 2 below). It is extremely misleading to rely on CONCRS data alone.

Table 2: Comparison of CONCRS Data to US DOT T100 Data

Source: US DOT T100 Data Jan-Dec 2000 & AA/BA Joint Reply29

US Gateway	CONCRS Data (Passenger Numbers)			US DOT T100 Data (Passenger Numbers)			CONCRS as a percentage of US DOT T100
	To/From LGW	To/From LHR	Total	To/From LGW	To/From LHR	Total	
New York	325,503	2,113,280	2,438,783	631,022	3,620,588	4,251,610	57%
Miami	219,160	168,493	387,653	459,406	378,837	838,243	46%
Boston	165,102	440,792	605,894	247,157	859,837	1,106,994	55%
Los Angeles	34,587	719,1221	753,708	0	1,596,728	1,596,728	47%
Dallas Ft.Worth	147,267	28,062	175,329	403,914	0	403,914	43%
Chicago	18,859	442,503	461,362	0	1,466,209	1,466,209	31%

32. A combined AA/BA is clearly dominant not only in the overall UK-US market, but also in London-US markets and, more importantly, Heathrow-US markets. The assertion of AA/BA dominance in these markets is clearly not "nonsense"30. A 60.5% market share constitutes dominance by any definition. Furthermore, at page 15 of their Joint Reply, AA and BA seek to perpetuate the myth that certain of their competitors are eroding the BA/AA market share by adding frequencies. The percentage figures for the rate of frequency increases which AA and BA have included in their filing at page 15

29 See Table 3 at page 8 of Appendix C of the Joint Reply of American Airlines, Inc and British Airways plc, US DOT Docket No. OST-2001-10387-129

30 See p.14 of Joint Reply of American Airlines, Inc and British Airways plc, US DOT Docket No. OST-2001-10387-129.

are misleading. If a carrier starts from a low base and adds services its percentage increase will be high. This is all that the figures provided by BA and AA demonstrate. As was shown in Table 9 in Virgin Atlantic's original Answer31, BA and American have between them added 267 frequencies per month between Heathrow and the US since 1996. Virgin Atlantic, by contrast, has added only 93 frequencies, or three flights per day32. In fact, all of the other Heathrow-US carriers put together have only added 292 frequencies per month since 1996, a mere 25 frequencies more than BA and American (or less than one daily flight). AA/BA's growth rate at Heathrow since 1996 has been 25% and, accounting for nearly 48% of the additional Heathrow-US frequencies. Furthermore, as noted above at paragraph 5, in recent more recent years Virgin Atlantic has not added significantly to its US-Heathrow services, whilst AA and BA have added two further daily services.

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31 See paragraph 87 and page 70 of Docket No. OST-2001-10387-98.

32 An explanation of where Virgin Atlantic obtained the necessary slots at Heathrow to operate these services was included in its earlier Answer to AA/BA application, see paragraphs 90 and 91 of US DOT Docket No. OST-2001-10387-98

33. It has been drawn to Virgin Atlantic's attention that AA and BA have been citing Virgin Atlantic's application to the UK and US aeronautical authorities for approval of its proposed London-US frequencies for the Summer 200233 operating season (the so called "Annex 2 Filings"), as proof that Virgin Atlantic can obtain (or has obtained) slots at Heathrow for additional trans-Atlantic services. This is certainly not the case.

34. The Annex 2 filing made by Virgin Atlantic on 3 December 2001 for the Summer 2002 season merely reflected its operations from the previous Summer season. The only changes were ones which reflected Virgin Atlantic's current decision to operate its Boston and second Newark service from Heathrow in lieu of services to Chicago and New York-JFK which were suspended in light of the events of September 11. The filing also includes a proposed increase in services to Washington, a proposal which has been put on hold for the time being.

35. As a result, the filing would appear, on the face of it, to show an increase in operations from Heathrow. In reality this is not the case.

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33 This is a filing made in accordance with Annex 2 to the Air Services Agreement between the United States and the United Kingdom ("Bermuda 2"). Annex 2 filings are made twice yearly for the following operating season (once in June and again in November/December). It is the process whereby the US and UK aeronautical authorities formally "agree" what frequencies their carriers may operate between the various US Gateways and Heathrow/Gatwick airports in each operating season.

The filing, was merely a move to protect previously agreed frequency levels which would allow Virgin Atlantic to return to pre-September 11 levels of operation should the trans-Atlantic market recover fully from the current downturn. If Virgin Atlantic decided to return to the Chicago market, and to return operations to JFK to previous levels, then it would expect to have to move some of its other services from Heathrow to Gatwick in order to accommodate the additional Heathrow flights.

36. The Annex 2 filing does not in any way reflect slot holdings at either Heathrow or Gatwick, and it is not unusual for carriers to bid for frequencies when they do not hold the necessary slots at Heathrow to facilitate services. For example, every season Continental files to operate its UK-US programme from Heathrow as well as from Gatwick, despite being prevented by the Bermuda II agreement from serving Heathrow at all.

37. At page 19 of their Joint Reply, American and British Airways claim that the issue of "screen padding" should not be addressed by the Department as part of its consideration of the AA/BA alliance proposals. Virgin Atlantic believes that the reverse is the case. It is essential that the Department considers this issue and takes steps to ensure that AA and BA cannot pad CRS screens to ensure that competing flights are pushed down the screen or indeed onto

subsequent screens. As Virgin Atlantic pointed out in its Answer of November, 2 to the AA/BA filing, the listing of code shared flights as flights of each of the code share partners will take up considerable screen space and regulatory attempts to remove this problem in Europe do not appear to have been successful. Taking steps to prevent this situation would be a relatively easy remedy for the competition authorities to impose on AA and BA.

"Competition for Business Passengers in the US-UK market is intense"34

38. Competition for business passengers in the US-UK market may well be intense at present, but that does not mean that this will remain the case should the Department decide to allow the AA/BA alliance to proceed. Nor does it mean that carriers are currently competing on a level and fair playing field.

39. The statement by AA and BA that their "alliance will offer corporate customers an attractive array of services and will enhance

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34 p.20 of the Joint Reply of American Airlines, Inc and British Airways plc, US DOT Docket No. OST-2001-10387-129.

competition with other carriers and alliances"35 hardly does justice to the reality. With BA and AA acting as one, one major competitor has been removed from the market place. By definition this must reduce competition. Furthermore, by linking their extensive networks together they will be able to further dominate the corporate market by offering corporate clients services to all of the major business centers via their preferred airports such as Heathrow, while other airlines and alliances are unable to compete effectively because of infrastructure constraints.

40. The arguments that American and BA have included on the corporate market are also predicated on their view that "business passengers are not overwhelmingly time-sensitive" and that "business passengers now include passengers with a large mix of varying sensitivity to price, travel time and a range of other factors"36. It is certainly true that the growth of the Premium Economy and World Traveler Plus segments of the market are an indication that some

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35 See p.24 of the Joint Reply from American and British Airways in Docket No. OST-2001-10387-129

36 See p.21 of the Joint Reply from American and British Airways in Docket No. OST-2001-10387-129

business travelers are becoming more price sensitive. But this does not equate to them not being "time sensitive". There is not a shred of evidence that business passengers do not remain overwhelmingly time sensitive. Indeed, AA and BA elsewhere in their Joint Reply say that "a very large percentage of business passengers fly during relatively narrow time windows"37. This statement is an admission from AA and BA that business passengers are indeed time sensitive.

"The handful of overlap routes on which American and British Airways now compete are all highly competitive"38

41. Again, BA and AA have sought to distort the facts. They conveniently ignore the fact that they have a sizeable or dominant, and in some cases an absolute monopoly, presence in all of the London-US markets in which they operate39. Furthermore, on the seven AA/BA overlap routes, AA and BA have market shares ranging

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37 See p.39 of the Joint Reply from American and British Airways in Docket No. OST-2001-10387-129

38 p.30 of the Joint Reply from American and British Airways in Docket No. OST-2001-10387-129

39 See table 16 at page 116 of Virgin Atlantic's Answer set out in Docket No. OST-2001-10387-98

from 37.5% to 100%40 in terms of frequencies operated, and from 43.5% to 100% in terms of passengers carried (see Table 3 below). Far from the accusations of dominance being "empty"41, the statements are clearly valid.

Table 3: BA/AA Market Shares in Overlapping Markets
(Source: OAG August 2001 & US T100 Jan to Dec 2000)

Market	% Share of Frequencies	% Share of Passengers
Heathrow-Newark	60%	48.7%
Heathrow-JFK	63.7%	56.6%
Heathrow-Boston	83.3%	87%
Heathrow-Los Angeles	37.5%	43.5%
Heathrow-Miami	100%	100%
Heathrow-Chicago	61.3%	55.1%
Gatwick-Dallas	100%	100%

New York - London

42. AA and BA suggest that the New York-London market will remain highly competitive even after their alliance is approved. That can hardly be the case when these two carriers will be operating as many as 17 daily return frequencies between New York and Heathrow (14

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40 Based on pre-September 11th timetables – AA/BA's own submissions make it clear that they expect to be operating back at pre-September 11th levels by the Summer 2002 operating season.

41 See p.30 of the Joint Reply from American and British Airways in Docket No. OST-2001-10387-129

on the Heathrow-JFK route) in Summer 2002, while their next nearest competitor (United) will be operating only three daily JFK-Heathrow services (and not four as AA and BA wrongly claim in their Joint Reply42). The evidence that AA and BA have themselves submitted to the Department shows how they currently dominate this market, and that that dominance will continue next Summer (see Table 4 below). How can any carrier compete against 14 frequencies on Heathrow-JFK with only three (or less) services per day of their own?

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42 See p.31 of the Joint Reply from American and British Airways in Docket No. OST-2001-10387-129. United will, in fact, be operating 4 services per day between Heathrow and New York City, but one of these will be operating to Newark.

Table 4: New York-London Frequency Shares
Source: Attachment A to Further Submission of AA/BA US DOT Docket No. OST-2001-11029-12

Carrier	November 2001 Weekly Frequencies				July 2002 Weekly Frequencies			
	LHR-NYC	% Share of LHR-NYC	LHR-JFK	% Share of LHR-JFK	LHR-NYC	% Share of LHR-NYC	LHR-JFK	% Share of LHR-JFK
BA[43]	55	37.7%	41	38.8%	70	38%	56	38.9%
AA	35	24%	28	26.4%	49	26.6%	42	29.2%
BA + AA	**90**	**61.6%**	**69**	**65.1%**	**119**	**64.8%**	**98**	**68.1%**
United	21	14.4%	14	13.2%	28	15.2%	21	14.6%
Virgin	26	17.8%	14	13.2%	26	14.1%	14	9.7%
Air India	6	4.1%	6	5.7%	7	3.8%	7	4.9%
Kuwait	3	2.1%	3	2.8%	4	2.2%	4	2.7%

43. AA and BA cite the possible entry of Delta on to New York-JFK - Heathrow route, and claim that Continental, Virgin and United are all high frequency operators in the New York-London market. In the case of Delta, its entry into the market can only be secured if commercially viable slots at Heathrow can be secured. As Delta made clear in its Answer to the AA/BA application:

> "Because of the unique and unprecedented access problems at Heathrow, no new entrant carrier could hope to challenge [the AA/BA New York-Heathrow] virtual shuttle operation

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[43] BA figures include Concorde frequencies (6 per week in November 2001; 14 per week in July 2002). Absent these frequencies BA's market share on LHR-JFK is 35% in November 2001 and 32.3% in July 2002.

> without access to substantial numbers of slots. Allowing for only a few token slots would be meaningless, presenting a strawman competitor that would be quickly overwhelmed by the alliance."

44. Delta's comments apply equally to incumbent carriers on the Heathrow-New York routes. Despite the allegation that Virgin Atlantic is a high frequency operator, Virgin Atlantic actually operates only a double daily service to JFK from Heathrow, hardly a high frequency service compared to the 14 daily services planned by AA and BA for the peak 2002 season. In order for Virgin Atlantic to continue to compete effectively in this market it too would need a significant number of additional commercially viable slots for use on services between Heathrow and JFK.

45. AA and BA also include an examination of Virgin Atlantic's services to New York from London, claiming erroneously that Virgin Atlantic has a 31% of share of the passengers and a 17% share of the frequencies operated. They also claim that Virgin Atlantic carries more passengers than British Airways despite having only about half the frequencies. This is another example of AA and BA selectively using data to manipulate the facts. The truth about the frequency and

passenger shares in the London-New York market is set out in Tables 5, 6 and 7 below. Virgin Atlantic's proportionately greater share of the market in terms of passengers is entirely due to the fact it operates larger aircraft than many of its counterparts, mainly because of the lack of slots at Heathrow. It is, of course, open to carriers such as American to use larger aircraft on services between New York and London and therefore to carry more passengers. Furthermore, AA/BA's emphasis on passenger numbers versus frequencies is misleading because higher frequency services, such as they plan to operate, are relatively more attractive to passengers, especially time-sensitive business passengers, and therefore more competitive than the types of lower frequency service to which AA/BA want to relegate all of their competitors.

Table 5: London-New York Market Shares
(Source: OAG August 2001 & US T100 Jan-Dec 2000)

Carrier	Monthly Frequencies	% Share of Monthly Frequencies	Annual Passengers	%Share of Annual Passengers
BA + AA	***527***	***55.9%***	***2,091,352***	***49.2%***
Virgin Atlantic	155	16.4%	1,091,742	25.7%
United	124	13.1%	447,797	10.5%
Continental	93	9.9%	295,894	7%
Air India	31	3.3%	260,153	6.1%
Kuwait Airways	13	1.4%	64,672	1.5%

Table 6: London-Newark Market Share
(Source: OAG August 2001 & US DOT T100 Jan-Dec 2000)

Carrier	Monthly Frequencies	% Share of Monthly Frequencies	Annual Passengers	% Share of Annual Passengers
BA + AA	***93***	***37.5%***	***370,579***	***28.7%***
Continental	93	37.5%	295,894	22.9%
Virgin Atlantic	62	25%	480,371	37.3%
United	31	12.5%	142,232	11%

Table 7: London-New York JFK Market Share
(Source: OAG August 2001 & US DOT T100 Jan-Dec 2000)

Carrier	Monthly Frequencies	% Share of Monthly Frequencies	Annual Passengers	% Share of Annual Passengers
BA + AA	***434***	***65.4%***	***1,720,773***	***58%***
Virgin Atlantic	93	14%	611,371	20.6%
United	93	14%	305,565	10.3%
Air India	31	4.6%	260,153	8.8%
Kuwait Airways	13	1.9%	64,672	2.2%

46. AA and BA have further argued that "Virgin's high O&D passenger shares show that it focuses on the passengers who matter most to the competitive analysis – those beginning and ending their journey between New York and London – and not on flow traffic"44. There are several things about this statement that need to be clarified.

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44 See p.32 of the Joint Reply from American and British Airways at Docket No. OST-2001-10387-129

47. AA and BA are correct to say that Virgin Atlantic concentrates primarily on point to point traffic. This is because Virgin Atlantic is a point to point carrier and not a network carrier in the way that BA and American are. This is a position that has been forced on Virgin Atlantic because the lack of available slots at Heathrow has meant that Virgin Atlantic has been unable to develop its own short-haul feeder network. Furthermore, US rules on the ownership and control of airlines have prevented Virgin Atlantic from establishing its own feeder airline within the United States. The net result of this is that Virgin Atlantic is bound to have a proportionately higher level of point to point passengers than most other carriers.

48. Virgin Atlantic has not yet had sufficient time to prepare a detailed rebuttal of Appendix D to the Joint Reply from AA/BA, and hereby seeks the Department's leave to file a short rebuttal of that appendix at a later date. Nevertheless, Virgin Atlantic notes with much interest the assertion from AA and BA that "any route presence benefit on New York-London diminishes to a competitively insignificant level once a

carrier reaches the level of two flights per day"45. If operating more than two daily services is "competitively insignificant" why is it that AA and BA: were operating 13 daily services to JFK pre-September 11; intend to set up an hourly turn and up ride shuttle service between Heathrow and JFK; and, have plans to further expand their dominance of this market? If it is an issue of providing enough capacity to meet demand, this could be satisfied by AA and BA operating at a lower frequency with larger aircraft such as Boeing 747s with lower seat costs, rather than the smaller Airbus A300 and Boeing 777 that they often use. The truth is that AA/BA's own proposals show that frequency is a key competitive weapon on long-haul as well as short-haul routes.

49. American and BA have also cited the possibility of a Virgin Atlantic backed all business-class jet service ("Virgin Jetset") as something that will have "substantial competitive significance"46 in the New York-London market. This statement ignores the fact that British

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45 See p.33 of the Joint Reply from American and British Airways at Docket No. OST-2001-10387-129

46 See p.33 of the Joint Reply from American and British Airways at Docket No. OST-2001-10387-129

Airways was itself contemplating setting up a similar service, and in any event already operates an all first class jet service (Concorde) between Heathrow and New York-JFK, a service that has effectively been effectively subsidized by the UK Government. It also ignores the fact that plans for Virgin Jetset have now been dropped as was reported in *Flight International* on November 27, 2001[47]

50. AA and BA also speak of the "substantial competitive significance of [Virgin's] competitive block-space codeshare arrangement with Continental"[48]. The only thing that is significant about the Virgin Atlantic/Continental arrangements is that they involve competition between the two participants, unlike the proposals from AA and BA, or for that matter from United and bmi british midland. Virgin Atlantic and Continental compete head to head on all of their codeshare services, and it is not unusual for the seats of the marketing carrier to be sold at a lower price than those of the operating carrier, and vice versa.

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47 . "UK Giants withdraw from corporate jet ventures" published on November 27, 2001 at page 24.

51. In their discussion about frequencies in the New York-London market, AA and BA concede that "a very large proportion of business passengers fly during relatively narrow time windows"49. Virgin Atlantic welcomes this statement from AA and BA, and wholeheartedly endorses it. What AA and BA have conceded is that there are only narrow bands of time when slots at Heathrow for commercially viable trans-Atlantic services are of use. In terms of departures from Heathrow this is mid-morning to early afternoon, and in terms of arrivals it is early to mid morning (see also paragraph 66 below). The submissions made by ACL and BAA to the Department made it clear that slots were not available at those times and that even if they were to become available there was no guarantee that trans-Atlantic operators would receive them. The AA/BA statement, therefore, is tantamount to an admission that there must be significant slot divestiture to enable competitors to mount viable services in competition with the alliance.

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48 See p.33 of the Joint Reply from American and British Airways at Docket No. OST-2001-10387-129

49 See p.39 of the Joint Reply from American and British Airways at Docket No. OST-2001-10387-129

Heathrow & Gatwick

52. AA and BA have sought to argue that "Gatwick provides a competitive constraint on Heathrow"50 and that both airports are in the same New York-London city pair market. This is plainly not the case. It is an established fact that passenger numbers, revenues and yields are all higher from Heathrow than from Gatwick51, and even British Airways has admitted that profitability is higher at Heathrow than at Gatwick52. How can Heathrow and Gatwick be part of the same market when prices at Heathrow are significantly higher than at Gatwick? In addition, in Table 3 at page 8 of Appendix C to their Joint Reply AA and BA cite figures that show that the proportion of passengers travelling on unrestricted fares is much higher at Heathrow than at Gatwick (32% versus 20% for New York, and 23% versus 12% for Miami) clearly indicating that time-sensitive travelers prefer Heathrow to Gatwick.

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50 See p.41 of the Joint Reply from American and British Airways at Docket No. OST-2001-10387-129

51 See paragraphs 39 and 40 of Virgin Atlantic's Answer of 2 November 2001 at Docket No. OST-2001-10387-98

52 See quote from British Airways at paragraph 42 of Virgin Atlantic's Answer of 2 November 2001 at Docket No. OST-2001-10387-98

53. To support their claim that Gatwick is as important as Heathrow in the trans-Atlantic market AA and BA have cited the fact that traffic between Gatwick and the US has grown at a faster rate than traffic between Heathrow and the US, and that Gatwick-US services now account for around a third of all London-US passengers. Of course, the truth is that many carriers do not have the choice of operating London-US services from Heathrow because of the restrictive nature of Bermuda II, but even if they did have the right to operate Heathrow-US services they could not do so because of the slot constraints at Heathrow. It is these factors which have combined to inflate the importance of Gatwick.

54. AA and BA have also sought to use a press statement from Virgin Atlantic to support their claim that Gatwick is an effective substitute for Heathrow53. Again BA and AA are ignoring the facts. Virgin Atlantic's expansion plans for Gatwick were a direct result of the fact that Virgin Atlantic was unable to secure sufficient additional slots at Heathrow to meet its expansion requirements. As soon as

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53 See p. 45 of the Joint Reply from American and British Airways at Docket No. OST-2001-10387-129

opportunities arose to switch trans-Atlantic services from Gatwick to Heathrow Virgin Atlantic has done so. (Virgin Atlantic moved its Gatwick-Newark and Gatwick-Boston services to Heathrow in the aftermath of September 11, following the decision to suspend one of its Heathrow-JFK flights and its services from Heathrow to Chicago). British Airways has similarly moved services to Heathrow from Gatwick (e.g. its Baltimore service) because it too has recognized that profits are greater at Heathrow.

55. Furthermore, if Gatwick and Heathrow are truly interchangeable as AA and BA suggest, then it would follow that bmi british midland would have commenced trans-Atlantic operations from Gatwick given that it has had the bilateral rights to do so for several months. Bmi british midland's failure to do so is clear confirmation. If any more confirmation is needed, that Heathrow is the key to successful and profitable trans-Atlantic services.

Boston-London

56. AA and BA have referred to Virgin Atlantic's decision to move its Boston service from Gatwick to Heathrow and have claimed that once

their alliance is approved Virgin Atlantic will therefore be competing in this market. There is no guarantee that Virgin Atlantic will keep its Boston service at Heathrow. The service move was made only because Virgin Atlantic took the decision, in the aftermath of September 11 and the subsequent decline of the trans-Atlantic market, to suspend its Chicago service. Should the market recover sufficiently, Virgin Atlantic has every intention of returning to the Chicago market (assuming that the joint dominance that oneworld and Star enjoy in this market allows it to do so), and if slots at Heathrow are not available, Virgin Atlantic would have to decide which of its other Heathrow services to move to Gatwick. Boston would be an obvious candidate.

Miami-London

57. In discussing the Miami-London market, AA and BA have again stated that they expect bmi british midland to enter this market, from Heathrow, if and when the US and UK agree to open skies. This situation can no longer be relied upon (see also Section V below). In a letter to the Department bmi's Counsel states that:

> "While bmi has previously highlighted specific London Heathrow-US routes it may wish to operate, bmi is not now in a position to commit itself to specific routes and frequencies..."54

Indeed, Virgin Atlantic would argue that the Department can no longer take seriously any claims by bmi british midland that it will commence Heathrow-US services, and should therefore dismiss any reliance that AA and BA place on bmi's operations as a means as a means of reducing the anti-competitive nature of their alliance. Bmi has repeatedly told the UK Government that it plans to commence operations to various long-haul destinations around the world, but has failed to inaugurate services.

Los Angeles-London

58. Far from being "outlandish"55, Virgin Atlantic's claim that BA and AA will be dominant in the London-Los Angeles market is correct. With 37.5% of the frequencies operated and 43.5% of the passengers,

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54 See p.2 of US DOT Docket No. OST-2001-11029-5

55 See p.50 of the Joint Reply from American and British Airways at Docket No. OST-2001-10387-129

a combined BA/AA will enjoy a significant advantage over their nearest competitors on this route, Virgin and United.

59. BA and AA also claim that "Virgin is wrong in stating that one-stop connecting competition does not 'represent real and meaningful competition' on this route"56. UK Civil Aviation Authority (CAA) Survey data clearly show that indirect services account for only a very small proportion of the London-Los Angeles market. Only 12% of business passengers travel via an indirect point, and overall only 11% of passengers take a one-stop service57. Of the business passengers, it is likely that a sizeable proportion of them have taken an indirect routing in order to fulfil other business appointments.

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56 See p.51 of the Joint Reply from American and British Airways at Docket No. OST-2001-10387-129

57 See Table 7 of Virgin Atlantic's Answer at Docket No. OST-2001-10387-98.

"The benefits and efficiencies of the AA/BA alliance are conclusively established by the record"58

60. Much of the material in this section of AA/BA's Joint Reply is drawn from economic studies commissioned by AA and BA from Professor Kahn, Jan Brueckner, and Professor Janusz Ordover. Virgin Atlantic's detailed comments on these studies are set out in Appendices to this Answer.

61. AA and BA argue that since the demise of Swissair and Sabena, and the subsequent termination by AA of its immunized arrangements with those carriers, the Department has even more reason to grant the immunity sought by AA and BA. The argument appears to be that AA is, in some way, disadvantaged because it can no longer rely on the actual and potential code shared connections that its previous relationships with Swissair and Sabena offered. This, of course, is no reason to grant immunity for the AA/BA alliance. AA can serve more European cities direct if it so wished,

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58 p.50 of the Joint Reply from American and British Airways at Docket No. OST-2001-10387-129

given the open skies agreements that the US has with many States within Europe. Furthermore, the fact that AA has lost partners in Continental Europe does not in any way lessen the adverse competitive impact of its proposed alliance with British Airways on the Heathrow-US markets.

62. AA and BA also argue that their "alliance will produce lower connecting fares"59 as they will have no incentive to "double marginalize or double mark-up" fares. This ignores the fact that it is open to these carriers to agree lower pro-rates now and to pass those savings on to consumers if they wished. AA and BA have also quoted the work of Jan Brueckner and Tom Whalen in noting that "antitrust immunity by itself leads to substantially lower fares"60. Work by the UK CAA61 has shown that antitrust immunity when coupled with

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59 See p.61 of the Joint Reply from American and British Airways at Docket No. OST-2001-10387-129

60 See p.62 of the Joint Reply from American and British Airways at Docket No. OST-2001-10387-129

61 See the extract from the Supplementary Memorandum by the Civil Aviation Authority to the Transport Sub-Committee Enquiry into Air Services Agreements between the United Kingdom and the United States, 17 July 2000 as reproduced at Virgin Atlantic's original Answer to the

open skies actually leads to situations where the immunized alliance becomes even more dominant and direct competition is weakened. The inevitable result of this is that prices begin to rise. In fact Business Class fares in the US-Germany and US-Netherlands markets have risen at around twice the rate of those in the US-UK market, and economy class fares are also higher in those markets62.

"The positive impact of open skies will be enhanced by the reasonable availability of Heathrow slots"63

63. The claim by AA and BA that their "alliance raises no significant competition issues that can justify the divestiture of slots at Heathrow"64 is, quite frankly, laughable. Clearly their alliance does

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AA/BA application at pp. 118 and 119 of Docket No. OST-2001-10387-98

62 See Table 15 at p.112 of Virgin Atlantic's answer to AA/BA Application at Docket No. OST-2001-10387-98

63 p.70 of the Joint Reply from American and British Airways at Docket No. OST-2001-10387-129

64 See p.70 of the Joint Reply from American and British Airways at Docket No. OST-2001-10387-129

raise serious competition issues because of the dominance it will enjoy in individual airport-pair and city-pair markets, as well as in the broader Heathrow-US, London-US and UK-US markets. As Michael Levine has said: "allowing AA/BA and UA/BD to form immunized alliances without ensuring other...airlines the opportunity to access Heathrow at competitive frequency...will ultimately tend to create a worldwide duopoly of network competitors"65. And given that Heathrow is effectively full, something that British Airways has accepted and which the evidence of BAA plc and ACL to the Department supports, the only way that actual and potential competitors66 to AA/BA can obtain the necessary commercially viable slots is via slot divestiture.

64. Without slot divestiture "open skies" will be little more than an empty gesture. A more liberal Air Services Agreement between the UK and the US will not, on its own, facilitate market entry in the

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65 See p.5 of Answer of Michael E Levine at Docket No. OST-2001-10387-154

66 Clearly if bmi british midland were to begin operations from Heathrow to US it should not be a recipient of any slots divested from AA or BA as it already has a substantial block of slots of its own at the airport.

Heathrow-US markets or allow for greater competition in those markets. As set out in detail in Virgin Atlantic's Answer to the AA/BA application67, as well as in Continental's Answer68, Delta's Answer69, and Northwest's Answer70, commercially viable slots at Heathrow are simply not available in anywhere near sufficient quantities to allow carriers to react to the competitive impact of the AA/BA alliance. Indeed, Dallas/Ft.Worth Airport, a supporter of AA/BA, cites confidential information from AA and BA that would seem to indicate that AA and BA will not be able to move their Gatwick-Dallas service to Heathrow for at least three years because of a lack of slots.71

65. In an attempt to deflect away the possibility of slot divestiture at nil cost to their competitors, AA and BA quote from Federal Express that "the time has come to rely on competition and market forces to

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67 See paragraphs 81 to 99 of Docket No. OST-2001-10387-98.

68 See pp.32-38 of Docket No. OST-2001-10387-109

69 See pp.18-21 of Docket No. OST-2001-10387-104

70 See pp. 21-23 of Docket No. OST-2001-10387-112

71 See p.5 of US DOT Docket No. OST-2001-10387-115.

address...physical constraints at..Heathrow"72. Virgin Atlantic has long argued for the complete overhaul of how slots are granted at slot constrained airports, including moving to a system based more on market forces. However, such a change would involve the complete re-writing of the EC Regulation governing the allocation of slots. If anything, the European Commission appears to moving away from the concept of slot trading, and is actively pursuing a regime whereby slot trading and slot swapping would be inhibited. Furthermore, even without these changes, for there to be a market in slots there must be both sellers and purchasers. Virgin Atlantic's recent experience at Heathrow shows that while there are plenty of purchasers, there is a marked lack of sellers, something which the statements made by ACL to the Department support.

66. At page 78 of their Joint Reply, AA and BA seek to argue that, despite all available evidence to the contrary, trans-Atlantic arrival slots need not be before 1100, and departure slots need not between 1000 and 1559. While it is true that some trans-Atlantic flights do

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72 See p.73 of the Joint Reply from American and British Airways at Docket No. OST-2001-10387-129

operate at other times of the day, these flights tend to be sub-optimal performers in terms of revenues, yields and passenger numbers. ACL itself has clearly identified the ideal times of day for trans-Atlantic operations73 as being within these timeframes.

67. Finally in this section of their Joint Reply, AA and BA attempt to argue that Heathrow slots are available without Government intervention. Again this flies in the face of all available evidence. The evidence submitted to the Department by ACL has clearly shown that very few slots were available from the slot pool for the Winter 2001/2002 season at viable times for trans-Atlantic services, and certainly not available on a daily basis at the same times of day74. Furthermore, ACL has also told the Department that "it is conceivable that some new entrant airlines may receive a slot from the pool...but

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73 See Attachment 1 to response of Airport Co-ordination Limited to Questions on Access to Slots and Facilities at London's Airports, US DOT Docket No. OST-2001-10387-86

74 See Attachment 1 to response of Airport Co-ordination Limited to Questions on Access to Slots and Facilities at London's Airports, US DOT Docket No. OST-2001-10387-86

the BAA would be unable to quickly provide the range and quality of facilities that an airline might need"75.

68. As already mentioned above (see paragraph 65), the market for the trading of slots at Heathrow is static, and may soon be outlawed altogether. Other carriers have explained that their alliance partners are unwilling to give up their slots at Heathrow in order to facilitate additional trans-Atlantic services, primarily because to do so would weaken the competitive position of the European partners against British Airways. In addition, slots that are used for short-haul intra-European or UK domestic services are unlikely to be useable for long-haul wide-bodied operations because the necessary terminal and aircraft parking facilities will not be available.

69. Virgin Atlantic notes that AA and BA have highlighted a number of long-haul markets, such as the Middle East, Far East and Africa76 which they claim might be candidates for losing their Heathrow

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75 See Question 20, response of Airport Co-ordination Limited to Questions on Access to Slots and Facilities at London's Airports, US DOT Docket No. OST-2001-10387-81.

76 See p. 85 of the Joint Reply from American and British Airways at Docket No. OST-2001-10387-129

services, thus freeing up slots for trans-Atlantic services, because yields on such routes might not be as good as on US-UK services. However, BA and AA have presented no evidence to support this claim. Virgin Atlantic's experience over many years points to a precisely opposite conclusion.

V. Rebuttal of Supporting Reports and Papers in Favor of AA/BA Alliance Proposals

70. In the Appendices to this Answer Virgin Atlantic has provided detailed comments on the statements in support of the proposed AA/BA alliance submitted by Janusz A Ordover and Milena Novy-Marx (at Docket Number OST-2001-10387-117), Professor Alfred E. Kahn (at Docket Number OST-2001-10387-118) and Jan K. Brueckner (at Docket Number OST-2001-10387-119).

VI. Rebuttal of Joint Application of United Air Lines, Inc., British Midland Airways Limited, et al. of September 5, 2001

> "While bmi has previously highlighted specific London Heathrow-US routes it may wish to operate, bmi is not

> now in a position to commit itself to specific routes and frequencies given the current economic uncertainty. Bmi will make a firm decision on commencing London Heathrow-US services when open skies has been achieved, antitrust immunity granted and currently prevailing market conditions have improved."77

71. By virtue of the above statement it is clear that bmi british midland has no current interest in entering the London-US market in the near future. There should, therefore, be no need for the Department to consider further the application for antitrust immunity from United and bmi british midland (and their Star Alliance partners) as there is no need for these parties to have such immunity in respect of UK-US services. United and bmi british midland already have extensive code sharing agreements in place, and have the necessary authorizations and exemptions from the Department, and these parties are already participating in a joint venture on bmi's services from Manchester, England to Chicago and Washington D.C. (Virgin Atlantic assumes that United and bmi british midland have concluded that they do not require antitrust immunity for their

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77 p.2, Joint letter from Counsel for United Airlines, Inc, British Midland Airways Limited *et al* to US DOT of November 21, 2001, US DOT Docket No. OST-2001-11029-5.

operations on these routes). Accordingly, the Department should reject this application, or at the very least suspend consideration of it, as it has no basis for judging its competitive impact.

72. On the assumption that the application is allowed to proceed it is essential that the Department considers carefully the implications for joint dominance of the Heathrow-US and UK-US markets that concurrent approval of this application and that from AA and BA will produce, as well as the joint dominance of Heathrow airport and the subsequent consequences that that will have for global airline competition. Virgin Atlantic's views on this issue are set out in section III above and in paragraphs 107 to 140 of its original Answer to the AA/BA antitrust application78.

73. Should the Department, despite the comments made above, decide to proceed with consideration of this case, Virgin Atlantic has the following observations on the Joint Application from United, bmi *et al* (the "Star Alliance partners"). 79

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78 See Docket No. OST-2001-10387-98

79 As set out in Docket No OST-2001-10575-1

74. In their application the Star Alliance partners state, correctly, that "approval of the pending American/British Airways application...will reduce the number of major competitors in the US-UK market by one, to be replaced by immunized co-operation between two carriers that already hold the largest share of the market."80 However, the Star Alliance partners then go on to state, incorrectly, that their "joint application...is entirely different because the addition of bmi to the European Alliance will expand the pro-competitive and pro-consumer benefits of that arrangement..."81 Bmi british midland already has extensive code sharing arrangements with many of the Star Alliance partners, and already has an immunized alliance with Lufthansa and SAS for the majority of its European operations. Furthermore, bmi's transatlantic services from Manchester, as noted above, are already performed as a joint venture with United. Given that bmi british midland does not now have ambitions to operate services from Heathrow to the United States in the near future (see bmi statement above), it is difficult to see how the addition of bmi british midland to

80 See p.7 of Docket No OST-2001-10575-1

81 See p.7 of Docket No OST-2001-10575-1

the Star Alliance's immunized arrangements for trans-Atlantic services can assist the competitive position of that Alliance in the trans-Atlantic market. Star carriers already have access to the bmi network from Heathrow, and bmi has extensive code sharing arrangements on the services of its Star partners, including extensive arrangements with United.

75. As Virgin Atlantic pointed out in its Answer to the AA/BA Joint Application82, much of what bmi british midland could bring to the trans-Atlantic market is already open to United to do. United could, if it chose to, lower fares and increase capacity between the UK and the US. All the addition of bmi british midland to the Heathrow-US market will do is create a situation where just two airline groupings, oneworld and Star, control 85% of Heathrow-US services, something that has serious implications for competition even if the U.S. and U.K. agree to the execution of an open skies agreement.

76. It is not necessary for United and bmi to have an immunized alliance for "United to link its global network of services to bmi's

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82 See paragraph 167 of Docket No. OST-2001-10387-98

regional network at Heathrow"83, as the existing code sharing arrangements between these carriers already allows for "on-line" connections from United's trans-Atlantic services to bmi's intra-European network. Given all of the above it is hard to reconcile the Star Partners' statement that enabling bmi to engage in joint operations with United "will enhance global competition"84, when patently it will not. As Michael Levine has said (in his Answer to the AA/BA application), AA/BA and UA/BD "will dramatically reduce actual and potential competition in most markets between London Heathrow and the United States, even in the context of an Open Skies agreement"85.

77. In their Joint Application at pages 49 to 51, United and bmi discuss the issue of the availability of slots at Heathrow. Like AA and BA, United and bmi infer that slots will be available at Heathrow from the slot pool and that non-incumbent US carriers will be able to obtain these slots as they will be new entrants. What this argument

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83 See p.5 of Docket No OST-2001-10575-1

84 See p.33 of Docket No OST-2001-10575-1

85 See p.2 of Docket No. OST-2001-10387-154

fails to address is the fact that new entrant slots are small in number and are normally available only at off-peak time and therefore would not be useable for commercially viable operations to/from the United States. Furthermore, once a carrier has 4 pairs of slots per day it is no longer classed as a new entrant. It is inconceivable that having only 4 pairs of slots per day at Heathrow would allow any one carrier to mount a competitive response to either AA/BA or United/bmi.

78. Despite having access to 14% of the slots at Heathrow in its own right, bmi british midland still appears to be making a plea for additional support in terms of access to Heathrow and the necessary terminal facilities that would be required for trans-Atlantic services. Of course, all bmi british midland has done is emphasize how difficult it is to obtain slots and the associated facilities at Heathrow for both incumbent and non-incumbent carriers alike.

79. As a final point on this application, throughout their filing United and bmi british midland refer to Virgin Atlantic's arrangements with Continental as an "alliance" as if those arrangements were akin to the proposals from AA/BA and Star. That of course if not the case. As noted above (see paragraph 50), Virgin Atlantic's arrangements with

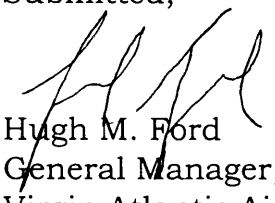
Continental are pro-competitive in that both carriers compete head to head under their codeshare arrangements. The AA/BA and United/bmi proposals are, by contrast, for collusive agreements with no competition whatsoever between the partners.

VII. Conclusion

80. Virgin Atlantic remains opposed to the alliance proposals from both AA and BA and from United and bmi british midland. Virgin Atlantic firmly believes that should these alliances be allowed to proceed they will result in the elimination of effective competition in the Heathrow-US, London-US and UK-US markets, and lead to a situation of joint dominance.

WHEREFORE, Virgin Atlantic Airways Limited urges the Department to deny the applications of American Airlines/British Airways and United Air Lines/British Midland/et al. for antitrust immunity for their proposed codeshare alliances.

Respectfully Submitted,



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Dated: December 17, 2001

CERTIFICATE OF SERVICE

I hereby certify that I have this date served a copy of the foregoing "Answer of Virgin Atlantic Airways Limited to Joint Applications of American Airlines, Inc. and British Airways plc and Joint Applications of United Air Lines, Inc., British Midland Airways Limited, *Et Al.*" on all persons named on the attached Service List by causing a copy to be sent by first class mail.

Hugh M. Ford

Dated: December 17, 2001

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APPENDIX 1

Reply to
Statement of Professor Alfred E. Kahn

Virgin Atlantic Airways Ltd

In *Statement of Professor Alfred E. Kahn*, while not offering a "conclusive recommendation", Professor Kahn lists a number of "considerations" upon which basis his "own disposition toward this alliance… has turned positive", subject to a number of "qualifications". Each of these considerations and qualifications is discussed in turn.

1. Competition in international aviation has increasingly in recent years been primarily a competition among alliances, dominating their own respective hubs and competing with one another worldwide.

For any statements as to the nature of competition to be meaningful, they must be made relative to a (carefully defined) market.

In the case of trans-Atlantic markets, there is likely to be substantial competition among alliances over their respective hubs for consumers wanting to travel between north-western/western central Europe and the US: passengers can fly via London with British Airways, via Frankfurt with Lufthansa, via Paris with Air France, and so on.

Table 1 shows, however, that over half of the passengers travelling between London and the US (50.7%) begin their journey in London and end their journey at one of the 28 US airports served directly from London, or vice versa. Just over 15% begin their journey in London and make a

connection at one of the 28 US airports served directly from London, or vice versa. Table 2 shows that of these passengers (66.2% of the total number of passengers travelling between London and the US- the remainder connect at London), only 14% use indirect services. This is because of the frequent direct services available in these markets. Moreover, this figure does not differ markedly across "business" and "leisure" passengers: only 11% of time-sensitive passengers and 15% of non-time-sensitive passengers use indirect services. In the densest markets the proportion of passengers using indirect services is even lower: for example, only 3% of passengers (2% of time-sensitive and 4% of non-time-sensitive) travelling to/from New York-JFK use indirect services.

Table 1: Passengers Travelling Between London and the US in 2000

Source: CAA Passenger Survey 2000

London to US Travel Pattern	Passenger Numbers	% Share of Total London-US Market
Connecting at London - Connecting at US Gateway	996,867	5.9%
Terminating at London - Connecting at US Gateway	2,618,413	15.5%
Connecting at London - Terminating at US Gateway	4,424,427	26.1%
Terminating at London - Terminating at US Gateway	8,577,727	50.7%
Travelling via Third Countries	299,465	1.8%
Total	**16,916,899**	**100.00%**

Table 2: Proportion of Passengers Travelling Between London (Heathrow and Gatwick) and the 28 US Airports Served Directly from London in 2000 Using Indirect Services

Source: CAA Passenger Survey 2000

US Airport	Business Passengers				Leisure Passengers				Total Passengers			
	Direct	Indirect	Total	% Indirect	Direct	Indirect	Total	% Indirect	Direct	Indirect	Total	% Indirect
JFK	675,406	15,329	690,734	2%	1,165,885	44,283	1,210,168	4%	1,841,290	59,612	1,900,902	3%
EWR	296,945	913	297,858	0%	533,348	7,798	541,146	1%	830,293	8,710	839,004	1%
MCO	42,024	11,776	53,799	22%	641,807	122,027	763,834	16%	683,831	133,802	817,633	16%
BOS	237,492	8,618	246,110	4%	488,747	61,332	550,079	11%	726,239	69,950	796,189	9%
LAX	134,233	18,372	152,605	12%	541,166	65,473	606,639	11%	675,399	83,845	759,244	11%
SFO	218,564	18,715	237,280	8%	373,815	64,173	437,988	15%	592,379	82,888	675,268	12%
IAD	227,461	23,413	250,874	9%	303,806	21,846	325,652	7%	531,267	45,259	576,526	8%
ORD	184,075	14,106	198,182	7%	262,544	39,671	302,215	13%	446,619	53,778	500,397	11%
MIA	83,424	5,326	88,750	6%	324,362	25,615	349,977	7%	407,786	30,942	438,727	7%
ATL	98,612	12,691	111,303	11%	149,803	32,786	182,588	18%	248,415	45,476	293,891	15%
PHL	108,869	6,316	115,185	5%	122,158	11,265	133,423	8%	231,027	17,581	248,608	7%
IAH	89,564	6,561	96,124	7%	113,573	17,967	131,539	14%	203,136	24,527	227,664	11%
DFW	49,739	18,623	68,362	27%	111,117	42,518	153,634	28%	160,856	61,141	221,996	28%
SEA	40,522	13,772	54,294	25%	56,528	62,908	119,435	53%	97,050	76,680	173,729	44%
DEN	41,150	22,218	63,368	35%	76,231	32,109	108,340	30%	117,381	54,327	171,708	32%
DTW	58,008	10,212	68,220	15%	90,188	9,830	100,018	10%	148,196	20,042	168,238	12%
LAS	0	21,994	21,994	100%	24,920	100,969	125,890	80%	24,920	122,963	147,884	83%
TPA	3,705	23,447	27,151	86%	67,371	38,613	105,983	36%	71,075	62,059	133,135	47%
PHX	12,027	14,977	27,004	55%	71,745	31,770	103,515	31%	83,772	46,747	130,519	36%
BWI	22,807	3,280	26,087	13%	46,162	27,869	74,032	38%	68,969	31,150	100,119	31%
SAN	7,742	17,986	25,727	70%	43,687	29,615	73,302	40%	51,429	47,601	99,030	48%
CVG	32,825	2,554	35,379	7%	42,215	19,965	62,181	32%	75,040	22,519	97,560	23%
RDU	28,699	19,640	48,340	41%	29,630	14,969	44,598	34%	58,329	34,609	92,938	37%
MSP	14,970	7,246	22,216	33%	33,141	35,835	68,976	52%	48,111	43,081	91,192	47%
PIT	6,970	17,657	24,627	72%	12,612	34,605	47,216	73%	19,582	52,261	71,843	73%
CLT	9,188	0	9,188	0%	56,703	5,308	62,011	9%	65,891	5,308	71,199	7%
STL	6,690	6,526	13,215	49%	25,074	13,567	38,642	35%	31,764	20,093	51,857	39%
CLE	3,267	2,827	6,094	46%	12,057	23,591	35,649	66%	15,324	26,418	41,743	63%
Total	2,734,976	345,095	3,080,072	**11%**	5,820,395	1,038,274	6,858,669	**15%**	8,555,371	1,383,369	9,938,741	**14%**

These figures are likely to overestimate the extent to which indirect services are a substitute for direct services in London-US markets in three ways. First, the figures are averaged across Heathrow and Gatwick, even though services to some US destinations are only provided from one of these airports. In the London-Chicago market, for example, services are only provided from Heathrow. Second, less dense markets (such as London-Tampa) are incapable of supporting frequent direct service, and hence some passengers have no alternative but to use indirect services. Third, some passengers will need to travel via another city, e.g. for business purposes. The likelihood of the latter factor being significant is shown by the fact that the proportion of time-sensitive passengers travelling indirectly is almost as high as the proportion of non-time-sensitive passengers.

Table 3 shows that one-stop services provided by carriers over Continental European hubs are not a competitive constraint on London-US services: in 2000 only 1.1% of passengers travelling between London and the US travelled via Continental Europe. This is for two reasons. First, passengers travelling between the UK and the US comprise the largest proportion of total EU-US passengers (41%), larger than Germany-US passengers (17%), France-US passengers (12%) and Netherlands-US (10%) passengers combined[1]. Frequent, direct service is therefore available in most London-US markets, and certainly more frequent service

[1] UK Civil Aviation Authority Economic Regulation Group, Memorandum submitted Transport Sub-Committee Inquiry into Air Service Agreements Between the United Kingdom and the United States, 13 April 2000.

than that offered by Lufthansa over Frankfurt, Air France over Paris, or KLM over Amsterdam. Second, travelling via Europe involves 'back-tracking', which adds considerably to passengers' total journey time and inconvenience.

Table 3: London-US Passengers Travelling via Third Countries

Source: CAA Passenger Survey 2000

Third Country	Total Passengers	% Share of Total London-US Passengers
Denmark	1,301	0.008%
France	26,717	0.16%
Germany	60,888	0.36%
Greece	617	0.004%
Iceland	46,641	0.28%
Ireland	8,960	0.05%
Italy	2,302	0.014%
Netherlands	26,943	0.16%
Spain	2,364	0.014%
Switzerland	8,289	0.048%
Total Europe	**185,022**	**1.10%**
Canada	114,085	0.67%
Hong Kong	239	0.0014%
South Africa	119	0.0007%
Total Rest of World	**114,443**	**0.672%**
Total	**299,465**	**1.77%**

A number of studies have shown that carriers providing services via hub-and-spoke operations will compete less vigorously with each other (or avoid entering markets served by other hub-and-spoke operators altogether) where their networks overlap. This is because each carrier will be able to engage in retaliatory behaviour over time. Evans and Kessides (1993)[2], for example, using fourth quarter 1984-1988 data on the 1000 largest US city-pair markets, found that fares were higher in markets served by carriers with extensive inter-route contacts (producing services via hubs located at

[2] Evans, W and I Kessides (1993), 'Living By the "Golden Rule": Multimarket Contact in the US Airline Industry', *Quarterly Journal of Economics*, May 1993, pp341-366.

different airports). Specifically, they found that on routes where contact among airlines was in the seventy-fifth 'contact percentile', prices were approximately 5.1% higher than on routes in the twenty-fifth contact percentile. They also found that multi-market contact increased the price of higher priced tickets more: on seventy-fifth contact percentile routes, tenth 'price percentile' prices were approximately 2.5% higher, but ninetieth price percentile prices were approximately 7.3% higher, than on twenty-fifth contact percentile routes. Brander and Zhang (1993)[3] showed that this type of behaviour can be expected when carriers producing services via hub-and-spoke operations have a hub at the same airport. The authors examined the (dynamic) behaviour of American and United on sixteen Chicago/O'Hare-originating or terminating routes over the period 1984:IV-1987:IV and in the second and fourth quarters of 1988, and found that in eleven out of the fifteen quarters their behaviour was more collusive than the Cournot model would imply (in the other four quarters their behaviour approximated Cournot-type behaviour).

2. (The imposition of ceilings on the share of slots held by dominant carriers) could well weaken the important competition on long routes among network carriers over their respective hubs. The dominant carrier may well be able to outbid its rivals for the scarce slots or better pay the congestion-based fees (if slot auctions or congestion pricing respectively were

[3] Brander, J and A Zhang (1993), 'Dynamic Oligopoly Behaviour in the Airline Industry', *International Journal of Industrial Organization*, 11, pp407-435.

imposed) because of the superior economies of scope that usage of airports at those times permitted it to exploit.

As discussed above, of the passengers originating their journey in London and terminating their journey in the US, or vice versa (66.2% of the total number of passengers travelling between London and the US) only approximately 14% (or 9.27% of total London-US passengers) use indirect services given the frequent direct services available in these markets. Passengers travelling from north-western/western central Europe to the US via London (approximately 33.8% of the total number of passengers travelling between London and the US) can already travel via Frankfurt, Paris, Amsterdam, etc rather than via London. Hence, even if placing an upper limit on the share of slots held by AA/BA at their hub airports weakened their ability to compete with other hub-and-spoke operators in one-stop markets, the proportion of total passengers travelling between London and the US affected would be small, and certainly far smaller than the proportion of passengers adversely affected by the anti-competitive effects of AA/BA.

It will only be true that the reason the dominant carrier will be able to outbid its rivals for scarce slots or pay higher congestion-based fees if slot auctions or congestion pricing respectively were imposed is that it can better capture economies of scope where slots have been allocated via market mechanisms that promote a level playing field among bidders, such as auctions of simultaneous multi-round format. Where

historical users are given priority in the allocation of slots, as currently occurs, then as Kahn acknowledges "… the incremental value of a slot to a carrier for which it represented a protection or extension of monopoly would ordinarily be expected to be greater than to a smaller rival, for which it represented only an opportunity to compete with the dominant incumbent…". Hence the greater willingness to pay of the dominant carrier will represent the difference between the profits it will earn when entry is prevented and when entry occurs. The dominant carrier will also be able to bid more due to the higher average revenues it enjoys as a result of having access to the most commercially attractive slots. The dominant carrier may also not be the most efficient user of slots, and hence any economies of scope it captures will be less than that which could be captured by its more efficient counterparts.

Even if slots were allocated via market mechanisms that promote a level playing field among bidders, limits would need to be placed on the proportion of slots that can be held by any carrier (or group of carriers) at particular times of the day to prevent the establishment of a dominant position. This is because, as acknowledged by the existence of competition laws in market-based economies, the benefits to consumers over time of preventing any firm or group of firms from exploiting the market power associated with having a dominant position far outweigh the costs of preventing the firm or group of firms from capturing greater efficiencies.

Restrictions of this nature were imposed on British Airways' operations at Gatwick Airport by the UK Office of Fair Trading as part of the terms and conditions of its approval of BA's acquisition of CityFlyer. If, as Kahn also states, "… hubs have characteristics of natural- as well as unnatural-monopoly…", then intervention in the marketplace is even more urgent, as for a firm to be a natural monopoly, the nature of its costs and demand is such that competition is not sustainable in the long-run. To ensure that some of the rents associated with production are passed onto consumers, natural monopolists are typically regulated in a way that incentivises them to act as if they operated in a competitive market.

3. Such market power as a combined AA/BA alliance may enjoy will be additionally constrained- to what extent I cannot judge- by point-to-point competition.

To date Virgin Atlantic, a point-to-point operator, has been highly successful in entering a market with superior products and lower prices than the incumbents and, as a result, stimulating demand. However, it would be much more difficult for Virgin Atlantic to do this in the future if the proposed alliance were approved, due to the substantial increase in market power that AA/BA would enjoy. This increase in market power would arise particularly from AA/BA's ability to attract a greater proportion of higher-yield passengers, and would

increase the ability of the alliance to respond to the actions of their competitors.

Given the high sunk and fixed costs associated with the provision of air transport services and the fact that 'willingness to pay' differs significantly across passengers, a profit-maximising carrier would recover costs from passengers according to the "Ramsey Rule": a higher proportion of sunk and fixed costs are recovered from those passengers with a higher willingness to pay. This produces near-competitive levels of output as those passengers with a higher price elasticity of demand (in absolute terms) are charged lower fares. It also results in near competitive prices and service quality levels provided that carriers face effective competition in the markets in which they operate.

Any reduction in a carrier's ability to attract passengers with a higher willingness to pay will make it more difficult for the carrier to recover the sunk and fixed costs associated with providing services. The carrier will need to spread a greater proportion of these costs across passengers with a lower willingness to pay, such that these passengers face higher average fares. However, if it raises fares passengers will switch to its competitors, which will increase the extent to which it will need to raise its fares, causing more passengers to switch, and so on. Of course, if provision of service becomes non-commercially viable and the carrier exits the market, other carriers in the market will only provide

near-competitive output levels at near competitive prices and service quality levels provided that they continue to face effective competition.

The proposed alliance would enable AA/BA to capture a higher proportion of higher-yield passengers in two main ways. First, the alliance would allow AA/BA to provide more frequent service than their competitors in many London-US airport-pair markets. Frequent service affords carriers market power due to the existence of "the s-curve effect": as the number of frequencies a carrier provides in a market increases, that carrier will enjoy a more than proportionate increase in revenue from operating an additional frequency. That is, a carrier providing three frequencies per day in a market will enjoy a greater increase in revenues in that market from adding a fourth service than just the revenue accruing from the fourth service. This is because the carrier operating the greater number of frequencies will be able to attract a greater proportion of (higher-yield) time-sensitive passengers, as these passengers place a particularly high value on frequency of service. Specifically, frequent service minimises time-sensitive passengers' "schedule-delay cost": the difference between actual departure times and desired departure time (Tretheway and Oum (1992)[4]). Given the lack of commercially attractive slots available at Heathrow, carriers who have not been granted access to large numbers of slots in

[4] Tretheway, M and T Oum (1992), *Airline Economics- Foundations for Strategy and Policy*, Centre for Transportation Studies, University of British Columbia, Vancouver, Canada.

perpetuity (given the priority given to historical use in the slot allocation process), such as Virgin Atlantic and potential new entrant US airlines such as Continental, Delta and Northwest, will find it difficult to provide frequent service. The slot situation at Heathrow, as well as carriers' inability to access slots from alliance partners, will be discussed further below.

Second, the alliance would make AA/BA's loyalty schemes more attractive, particularly in the catchment areas of airports at which they are dominant. Carriers operate three main loyalty programmes: frequent flyer programmes (FFPs), corporate deals, and travel agent commission override schemes (TACOs). All of these offer 'rewards' to participants once the value of their transactions reaches a certain threshold level. The reward amount increases as higher threshold levels are reached. FFPs reward passengers with free flights, seat upgrades, reduced cost hotels and car hire, etc; corporate deals provide lower fares and occasionally upgrades; TACOs generally reward travel agents with commissions. This sort of (non-linear) pay-off schedule induces participant loyalty to a single, large carrier for two reasons:

- The greater the extent to which a participant concentrates transactions on a single carrier, the higher the reward 'rate' it will be eligible for and hence the greater the reward it will earn;

- The 'larger' this carrier is (the greater its presence at the airport in the vicinity of where the passenger, corporation or travel agent is based), the more likely it will provide most of the services demanded by passengers, firms, or travel agents' customers, maximising the proportion of total transactions upon which a reward can be earned as well as the reward rate the participant is eligible for.

In order to entice passengers, firms and travel agents away from the largest carrier, smaller carriers will need to offer higher reward rates on smaller transaction values, which the largest carrier will easily be able to match.

The higher average yield that AA/BA would enjoy would give them an even greater ability to respond to the actions of their competitors. AA/BA already enjoy considerable market power from facing differing levels of competition across their networks, from their dominant position at Heathrow, Gatwick, Dallas-Fort Worth, Chicago/O'Hare, Miami and Raleigh-Durham, and from the fact that they provide services via hub-and-spoke operations.

AA and BA, by way of incumbency, face differing degrees of competition in each of the airport-pair markets that comprise their route networks, and hence are able to offset vigorous competition in some markets with economic rents earned in other markets. Entrants, such as Virgin Atlantic, on the other

hand, must vigorously compete with incumbents in each of the markets they enter, and hence have little ability to cross-subsidise. The degree of competition faced by incumbents is also decreasing over time, due to the establishment of global alliances. British Airways, for example, in addition to seeking anti-trust immunity with American, is also seeking immunity from competition laws with Iberia and Finnair on services to Spain and Finland respectively. Should these applications be approved, British Airways will not compete with fellow oneworld members on any service originating or terminating at Heathrow, with perhaps the exception of Cathay Pacific Airways on services to and from Hong Kong.

A sizeable slot portfolio enables the holder to threaten credibly to respond to the actions of its competitors. For example, should a carrier enter a market or increase the frequency with which it serves a market the portfolio holder also serves, the portfolio holder will be able easily to increase capacity in that market by adding frequencies. This will discourage carriers from vigorously competing with the portfolio holder upon entry or adding capacity, and may even prevent carriers from entering markets altogether.

It was discussed above how the pay-off schedules inherent in loyalty programmes incentivise participants to concentrate all of their business on the carrier with the largest presence at the airport located in their vicinity. Incumbent carriers are also able to use loyalty programmes to give themselves an

(unfair) competitive advantage in markets in which they compete. By 'tying' the reward received for travel in a market or group of markets in which it is the monopoly provider of services due to restrictions inherent in bilateral agreements or lack of commercially attractive airport slots (for example, some London-Africa services) to the extent to which the participant also concentrates their travel in markets in which the incumbent competes (for example, London-US services) on the incumbent, the incumbent is able to gain an unfair competitive advantage in London-US markets. This can be achieved either by explicitly tying geographic regions together, or by raising the threshold levels inherent in loyalty programmes beyond the level of travel undertaken by the participant in the London-Africa markets (such that the participant must concentrate some or all of his/her travel in the London-US markets on the incumbent to meet the threshold levels that make him/her eligible for a reward).

Carriers are also able to encourage loyalty via the computer reservation systems (CRSs) travel agents use to find out fare, route and departure time information to make bookings. Studies of US booking behaviour have shown that, for an airport-pair market, the majority of bookings are made on flights listed in the first screen of a CRS display and a substantial proportion of these are made on flights listed in the first line of the first screen[5]. Carriers therefore have the incentive to 'screen

[5] American, for example, found that over 90% of all its Sabre system sales came from somewhere on the first screen of a CRS display, and 53.5% came from the first line of the first screen (Gillen, D, T Oum and M Tretheway

pad' to ensure that competing flights are 'pushed' further down the first screen or indeed onto subsequent screens. Listing code shared flights as flights of each of the code share partners, for example, will take up considerable space. Regulatory attempts to remove this problem in Europe do not appear to have been successful.

Where a carrier also provides services via hub-and-spoke operations, the negative effects of entry or expansion of service by competitors on cost-savings across hub-and-spoke operators' networks will mean that they will be credibly able to threaten to respond vigorously to the actions of their competitors. As discussed above, where competitors also provide services via hub-and-spoke operations and there is substantial network overlap, carriers may compete less vigorously with each other or avoid entering markets served by the other altogether, given that each carrier will be able to engage in retaliatory behaviour over time.

Hub-and-spoke operators are also able to use the fact that they will have the greatest feed at their hub airports to give themselves an (unfair) competitive advantage in markets in which they compete. By increasing the amount charged to competitors (in "pro-rate agreements") in markets in which they are the monopoly provider of services, hub-and-spoke operators are able to give themselves an unfair competitive

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. . . (footnote continued)(1988), 'Entry Barriers and Anti-Competitive Behaviour in a Deregulated Airline Market: The Case of Canada', *International Journal of Transport Economics*, 15(1), February 1988, pp 29-41.

advantage, given that competitors will need to match the fares they offer on one-stop services in order to be able effectively to compete. The effective reduction in yield per sector earned by competitors on services operated will reduce the commercial viability of these services. Virgin Atlantic tends to enter markets where traffic levels will support point-to-point services. However, as these avenues are exhausted, our reliance on feed traffic at either or both ends of a route increases.

If the higher average yield and hence greater ability of AA/BA to respond to the actions of its competitors causes competitors to reduce their operation in London-US markets (or even exit these markets altogether), it will become even more difficult for the competitors to attract passengers with a higher willingness to pay. This is because these passengers will want to travel to at least a few key destinations, but will also want to concentrate their business on one carrier, given the nature of pay-off schedules inherent in loyalty schemes discussed above. They will therefore choose the carrier providing frequent services to those destinations. As Levine states in his answer to AA/BA[6], the end result is likely to be a oneworld and Star duopoly. The discussion in Section 1 above suggests that these carriers are unlikely to compete vigorously with each other over time.

[6] *Answer of Michael E. Levine to AA/BA Applications and Motion for Leave to File,* US DOT OST-01-10387.

4. The overwhelming precondition for these competitive constraints is freedom of entry by competing alliances and individual competitors, point-to-point and over such hubs as they can develop or avail themselves of- and if precluded by slot restrictions at Heathrow, then in neighbouring airports that have increasingly become a major source of competition available to air travelers in Europe.

As British Airways stated in its comments on the Institute of Directors (IOD)' policy paper *Air Warfare*[7],

"Briefly stated, Heathrow as it currently stands is full."

BA also said:

"The corollaries of this are that:

- an "open skies" deal with the US can only introduce new carriers or services from Heathrow to the US by displacing other services;…
- however, the process of introducing new Heathrow-US services would inevitably be gradual because there is so little room for them, and would not add large amounts of new capacity to the market; so there would not be any significant change in the current

[7] British Airways, *Comments on the IOD's Policy Paper* "Air Warfare", February 2001.

balance of supply and demand. There would therefore be no great change in the levels of fares."

BAA, the owner and operator of Heathrow, has similarly said:

> "At Heathrow, the full utilisation of runway capacity at most times of the day would mean that any increase in the number of US services, would inevitably lead to a reduction of services to other destinations."[8]

> "It is not possible to increase Heathrow's runway capacity by more than a minimal amount without changing the operating protocols. And until Heathrow's Terminal 5 is approved, built and opened, there is relatively little that can be done to relieve the aircraft parking and terminal capacity constraints."[9]

Since 1996, BA has added 174 services per month (5-6 services per day) to the US from Heathrow. However, this has been at the expense of many of its short-haul services: since 1994, BA has dropped services to 21 short-haul destinations[10].

BA and BAA's comments and BA's actions concur with Virgin Atlantic's own experience. Since 1996, despite making enormous

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[8] Memorandum of BAA Plc to the Transport Sub-committee inquiry into Air Services Agreements between the United Kingdom and the United States, April 2000.

[9] Letter from Mike Toms, Group Strategy and Regulatory Affairs Director, BAA Plc, to Susan McDermott, Deputy Assistant Secretary for Aviation and International Affairs, US DOT, Docket No. OST-2001-10387-77.

[10] Inverness, Newquay, Plymouth, Guernsey, Jersey, Basel, Bilbao, Bremen, Florence-Pisa, Gothenburg, Hanover, Leipzig, Luxembourg, Lyon, Porto, Paris/Orly, Stavanger, St Petersburg, Thessaloniki, Turin and Venice.

efforts, Virgin Atlantic has only been able to access five pairs of daily slots at Heathrow suitable for trans-Atlantic services. Those accessed in more recent years have been at sub-optimal timings and hence have required an additional 0.5 aircraft to operate routes to the US East Coast. Virgin Atlantic was forced to move its Miami service to Gatwick Airport in order to commence service to Chicago, despite trying for several seasons to access suitable slots[11]. We have also tried for several years to transfer our Boston service from Gatwick to Heathrow without success[12]. Our Toronto service similarly had to be operated from Gatwick given the lack of available slots at Heathrow[13]. For a lengthy period Virgin Atlantic's Washington and Chicago services also had to arrive at Terminal 2 on some days of the week given the lack of available capacity at Terminal 3 (where the rest of our services operate to/from and our lounges for Upper Class passengers are located).

[11] The Chicago service has recently been suspended.
[12] This service is now operated from Heathrow, using the slots formally used for Virgin Atlantic's service to Chicago.
[13] This service has recently been suspended.

Table 4: Heathrow Slots Obtained by Virgin Atlantic for US Services Since 1996

Season	Slots
Summer 1996	1 pair of daily slots for Washington service acquired via slot allocation process.
Summer 1997	1 pair of daily slots for Miami service acquired through swap with another carrier. 1 pair of daily slots for second daily Los Angeles service acquired through swap with another carrier.
Summer 1999	1 pair of daily slots for third New York-JFK service acquired via slot allocation process. Slots are sub-optimal in timing (late departures and arrivals) and hence require 1.5 aircraft to operate.
Winter 2001	1 pair of daily slots for second Washington service acquired through swap with another carrier. Slots are sub-optimal as they only allow for a daylight service eastbound. This service has been postponed following the events of 11 September.

Carriers will be unwilling to buy, sell or lease slots to potential competitors (and these activities will be illegal if the European Commission's proposed amendments to Council Regulation (EEC) 95/93 are approved). Alliance members are unlikely to be willing to trade slots with fellow members given that this will require them to drop services currently provided. In addition, not all UK or US carriers (e.g. Virgin Atlantic, Continental and US Airways) are members of global alliances.

As BAA's comments quoted above imply, the recently-approved Terminal 5 will provide more aircraft parking and terminal capacity when it eventually comes on-line. It will not increase runway capacity. The UK's Department of Transport, Local Government and the Regions (DTLR) is currently undertaking a series of studies examining the provision and

usage of airports throughout the UK. One of these studies, the South East Regional Airport Study (SERAS) is examining the need for additional airport infrastructure in the South East of England, particularly runway capacity. The UK Government will not make any announcements about the possible location of additional runway capacity in the South East (if any) until after the SERAS report has been published and its findings have been consulted upon. A positive announcement regarding Heathrow would merely commence the planning process. The Terminal 5 inquiry suggests it would be a number of years after this before a final decision was reached. A new runway would then take a number of years to build, and environmental opposition to its construction is inevitable. As BA stated in its comments on the IOD's policy paper:

> "... the paper does not elsewhere take sufficient account of the lack of available runway and terminal capacity, and the time it will take to remedy this (it will be at least a further 5 years before Heathrow Terminal 5 can be completed, once the Government has decided whether or not it can be built). New capacity simply won't be available at Heathrow in the short to medium term."

It is therefore difficult to see how there is "freedom of entry" at Heathrow.

Gatwick is not an effective substitute for Heathrow (although Heathrow is an effective substitute for Gatwick). Heathrow is preferred by time-sensitive passengers due to its closer

proximity to the centre of London and its greater range of connections. Average yields are therefore higher than on flights to the same destinations operated from Gatwick. However, given the number of trans-Atlantic services provided by many vigorously competing carriers, Heathrow is also preferred by many non-time-sensitive passengers. Traffic levels therefore tend to be higher than on flights operated from Gatwick.

Passengers' preference for Heathrow is acknowledged by British Airways in statements on its Gatwick strategy over the past twelve months:

> "The current 43 long haul destinations will be reduced to around 25. Services to half a dozen destinations with no prospect of achieving suitable levels of profitability will be suspended, and another ten or so destinations will transfer to Heathrow, where there are prospects for substantially improving their profitability."[14]

British Airways' actions are yet another chapter in the long history of failed attempts by UK airlines to compete from Gatwick with services operated from Heathrow: Laker Airways, British Caledonian and Dan-Air all failed and eventually collapsed (British Caledonian was taken over by BA in 1987). This was in spite of frequently offering significantly lower

[14] British Airways News Release, *Plans for restructuring Gatwick announced*, 6 December 2000.

published fares than competing services operated from Heathrow, including fares used by time-sensitive passengers.

5. "Hub dominance" such as apparently makes possible a hub premium is rarely if ever, to my knowledge, defined as flowing from a 39 percent share of total operations.

A carrier will be 'dominant' at an airport if both its presence is significantly greater than that of its competitors at that airport and its position is sustainable over time.

Table 5 shows the relative slot holdings of carriers providing services to and from Heathrow in August 2001. It shows that AA/BA would have almost three times the slot holdings of the second largest holder of slots at Heathrow, bmi british midland (14.1%), and over ten times the slots of the third largest slot holders, Aer Lingus and Lufthansa (3.5%). Virgin Atlantic has just over 2% of slots. AA/BA alone would have almost one-and-a-half times the number of slots the Star Alliance carriers have at Heathrow.

Table 5: Slot Holdings at London Heathrow (August 2001)

Carrier/Alliance Grouping	% Share
British Airways (including franchisees)	37.5%
American Airlines	2.4%
BA + AA	**39.9%**
Aer Lingus	3.5%
Iberia	2.3%
Finnair	0.5%
Deutsche BA	0.5%
Qantas	0.4%
Cathay Pacific	0.3%
Oneworld Alliance	**47.4%**
bmi british midland	14.1%
Lufthansa	3.5%
SAS	3.3%
United Airlines	2.6%
Air Canada	2.0%
Austrian Airlines	0.5%
Singapore Airlines	0.5%
Thai International	0.2%
Varig	0.2%
All Nippon Airways	0.2%
Air New Zealand	0.2%
Star Alliance	**27.3%**
Air France	2.0%
CSA Czech Airlines	0.3%
Alitalia	2.0%
British European	0.9%
Korean Air	0.1%
SkyTeam Alliance	**5.3%**
KLM	1.9%
MAS Malaysian Airlines	0.3%
Kenya Airways	0.2%
Wings Alliance	**2.4%**
Swissair	1.7%
TAP Air Portugal	1.0%
Crossair	0.5%
LOT Polish Airlines	0.5%
Qualiflyer Alliance	**3.7%**
Virgin Atlantic	**2.18%**
Other Non-Aligned Carriers	14.48%

It was shown in Section 4 that, by BA's own admission, Heathrow is full and that additional runway capacity will not be available in at least the short- to medium-term. It was also shown that alliance members will be unwilling to trade

slots with partners. AA/BA's position will therefore be sustainable over time.

6. The addition of American's slots to those of British Airways, I understand, would raise the share of the "dominating" entity only from 37 to 39 percent. Although my experience with airline merger cases under the antitrust laws is far from encyclopaedic, I am unaware of any case in which so small an increment, particularly to a pre-merger share of 37 percent, was deemed worthy of antitrust concern, let alone condemnation.

Given the relative size of AA/BA's slot holdings at Heathrow compared to those of its competitors, and given that their position is sustainable over time, a two percentage point increase in their slot holdings is significant. Dominance of Heathrow is of course only one of the sources of the market power that AA/BA would enjoy in London-US airport-pair markets (albeit an important one).

It is also not the case that BA's current position at Heathrow does not raise competitive concerns, given that it is not the product of the normal functioning of markets constrained only by (consistent application of) competition laws. As explained in Section 2, it has arisen due to the fact that slots are allocated administratively according to guidelines which give priority to historical users of slots. It is also the case that only since *The Competition Act 1998* came into force (in

March 2000) have all aspects of the provision of UK air transport services come under the jurisdiction of UK and European competition laws.

7. If, indeed- as I assume to be the case- average fares in and out of Heathrow are higher than in and out of- for example- other London airports, it is surely the consequence primarily of the absolute limitation on the number of flights that that airport can accommodate and the perceived locational superiority of Heathrow. This means that the margin by which fares in and out of that airport exceed those elsewhere- which I assume to be significant- is in the nature of economic rent, reflecting its scarcity value, rather than monopoly profit. It therefore would persist even if operations at Heathrow were markedly less concentrated, and would not be increased if AA and BA were to combine. It also means, if my reasoning is sound, that the demands by competitors that American Airlines and British Airways surrender some of their Heathrow slots to competitors as a condition for approval of their alliance is a demand not for additional competition, such as may be counted upon to produce lower fares, but merely for a greater share of those scarcity rents.

The fact that average yields in and out of Heathrow are higher than on the equivalent services provided in and out of Gatwick is certainly attributable to runway capacity constraints at Heathrow and the perceived locational superiority of Heathrow.

However, BA's average yields will be even higher due to the market power it enjoys in Heathrow-US airport-pair markets as a consequence of a number of factors discussed in Section 3 above. This is effectively acknowledged by Kahn on pages 5-6 of his statement:

- "I do not, however, quarrel with the conclusion of most studies- including that of two eminently qualified committees of the National Research Council/Transportation Research Board in recent years- that there is such a thing as a hub premium."

The margin by which average fares in and out of Heathrow exceed those elsewhere ('economic rent') will therefore be equal to the sum of 'scarcity rents' plus the 'monopoly rents' enjoyed by BA.

The fact that economic rents will not consist purely of scarcity rents is shown by the fact that the US recipients of any slots given up by AA/BA (Delta, Northwest and Continental) have stated that they would mainly use them to transfer the services they currently operate to/from Gatwick to Heathrow, all of which are services to/from their respective hubs. It is also shown by the numerous empirical analyses of US domestic air transport markets, which show that average fares in and out of airports that are hubs of a carrier providing services via hub-and-spoke operations are higher than in and out of

airports that are not hubs, even though these airports are not capacity-constrained. It is interesting to note that the only US airport at which two carriers have a hub (Chicago/O'Hare) is also capacity-constrained.

The portion of total economic rents that is scarcity rents would certainly persist even if operations at Heathrow were markedly less concentrated, and would not be increased if AA and BA were to combine. However, that portion which is monopoly rents would, by definition, reduce with a decrease in concentration, and increase if AA and BA were to combine. The demands by competitors that American Airlines and British Airways surrender some of their Heathrow slots to competitors as a condition for approval of their alliance is therefore a demand for additional competition. It may also mean that they capture a greater share of scarcity rents.

8. As I have testified in a large number of forums- most prominently in the international arbitration at the Hague on behalf of the British Airports Authority- the economically preferable solution to the situation is a recapture of the rents by the airport from the carriers- whether via peak or congestion pricing or auctioning of slots- and their use to subsidise operations at the other London airports. This would still, properly, leave both airport charges and average fares

at Heathrow encouraging its optimum utilization (which would include economically optimal congestion), regardless of the share of operations that would be controlled by the proposed alliance.

'Peak' or 'congestion pricing' assumes that there are differing levels of demand across the day, days of the week, or seasons such that there are 'non-peak' periods into which carriers can substitute their services given a significant increase in peak period charges. This is unlikely to be true at Heathrow, given that demand currently outstrips supply by a significant margin during almost all periods of the day, 365 days of the year.

Virgin Atlantic has strongly supported a shake-up of the way slots are allocated at severely congested airports for a number of years. This is because only when the principle of giving historical users priority in the allocation of slots is abolished in favour of 'franchises' (for say 10 or 15 years) which are allocated via market mechanisms will slots be allocated to the most efficient users, *provided that a ceiling is imposed on the proportion of slots that any carrier or group of carriers may hold in any given time period*. This is because while an auction would 'extract' from carriers any scarcity rents currently enjoyed, in the absence of the imposition of ceilings, any carrier or group of carriers would have the opportunity to establish a dominant position and hence enjoy monopoly rents. For example, a carrier with access

to considerable funding could bid the amount it would enjoy from preventing potential competitors from obtaining slots, be awarded the slots, and then recoup the bid price over time given its dominant position. Imposing ceilings such that carriers are prevented from establishing a dominant position will ensure that slots are allocated to the most efficient users who, via competition, will pass these benefits on to consumers in the form of lower fares and higher quality of service.

Scarcity rents, by definition, arise because of a scarcity of airport capacity. Passing these rents on to airports would provide them with perverse incentives to expand airport capacity: airports may be better off by constraining airport capacity than by investing in additional capacity given that, provided this information is known prior to the commencement of the auction (which it would need to be for auction outcomes to be efficient), total scarcity rents will be lower. If ceilings are not imposed on the proportion of slots that carriers may hold in any given time period, bid prices will also contain monopoly rents carriers expect to earn from successfully establishing a dominant position. Allowing airports to also capture these would effectively transfer rents from one monopolist to another. It is therefore difficult to see how this could be viewed as a 'preferable solution' by anyone except for airport shareholders. As Professor Kahn notes, his evidence in The Hague was given on behalf of the owner of Heathrow Airport. It is also the case

that from consumers' point of view, airports are not effective substitutes for one another; it was discussed above how in London even Gatwick Airport is not an effective substitute for Heathrow for passengers travelling between London and the US.

Auctions determine the price at which scarcity will be eliminated. However, average fares will only reflect optimum utilisation of scarce capacity if ceilings are imposed such that carriers are prevented from establishing a dominant position. They will very much be affected by the share of operations that would be controlled by the proposed alliance. Given the elimination of scarcity, airport charges will encourage the optimum utilisation of airport capacity and ensure that monopoly rents are not fully captured by the airport (given the potential of a natural monopolist to perfectly price-discriminate) if, each period, they allow airports to recover short-run marginal costs, plus a portion of fixed costs (where this portion is recovered from services according to the Ramsey Rule), plus a 'reasonable' rate of return.

APPENDIX 2

Reply to *The Benefits of Antitrust Immunity and Codesharing for Interline Passengers: The Case of American Airlines and British Airways* and *Consumer Benefits to Online Passengers Resulting from a British Airways-American Airlines Alliance*

Virgin Atlantic Airways Ltd

In his paper, submitted by American Airlines and British Airways in support of their application for anti-trust immunity of their proposed alliance, Brueckner claims that given the ability to jointly determine sub-fares on interline services, AA and BA would reduce such fares by up to 27%, which would generate between $39.2 million and $43.7 million worth of benefits per annum to passengers. Ordover and Novy-Marx claim that the benefits arising from allowing AA and BA to jointly determine interline sub-fares are actually greater than estimated by Brueckner, as the quality of service associated with online services is greater than for interline services, which stimulates demand. Ordover and Novy-Marx claim that consumer benefits arising from approving the proposed alliance would therefore actually be in the order of $54.9 to $68.8 million.

In order to obtain these figures, however, the authors have used grossly inflated estimates of the (absolute) value of the price elasticity of demand for non-time-sensitive as well as time-sensitive passengers. Ordover and Novy-Marx have also grossly overestimated the level of service quality that would be enjoyed by passengers that would use the (formerly

interline) services. They have also made the (unrealistic) assumption that there are no sunk or fixed costs inherent in the provision of air transport services such that the supply of these services is perfectly elastic.

The implications of these errors are that, at best (from the consumers' point of view), the benefits that would accrue to consumers as a result of allowing AA and BA to jointly set sub-fares for interline services would be substantially smaller than those presented by Brueckner and Ordover and Novy-Marx. In fact, the values of the price elasticity of demand obtained via econometric estimation techniques and presented in (independent) studies suggest that AA and BA will have an incentive to raise interline fares for time-sensitive passengers. Whether or not they will be able to do so in practice will depend on the extent to which they face effective competition in the relevant markets.

Of course, the benefits of the alliance (if any) will need to be weighed against the adverse effects approval of the alliance will have on competition in the relevant markets and hence on consumers. The costs of the alliance are not addressed by either Brueckner or Ordover and Novy-Marx.

As AA/BA state in *Appendix A.3: Review of Recent Literature on Elasticity of Demand in the Airline Industry*, only a handful of studies have examined the price elasticity of demand for air travel. The earlier studies focused exclusively on US

domestic market outcomes. The results of two of these studies are shown in Tables 1 and 2 below.

Table 1
Values of Price Elasticity of Demand of Passengers Travelling on First Class, Standard Economy and Discount Tickets Estimated by Oum, Gillen and Noble (1986)

Route	Distance (miles)	E_{FF}	E_{SS}	E_{DD}	e_{FS}	e_{SF}	E_{SD}	E_{DS}
New York - Washington, DC	215	-0.68	-1.34	-1.65	-0.32	-0.04	0.25	0.51
Chicago - St Louis	256	-0.60	-1.36	-1.81	-0.40	-0.03	0.24	0.70
Los Angeles - San Francisco	335	-0.74	-1.31	-1.68	-0.27	-0.04	-0.22	0.55
Philadelphia - Cincinnati	513	-0.58	-1.34	-2.01	-0.41	-0.03	0.23	0.86
Boston - Cleveland	558	-0.64	-1.35	-1.77	-0.35	-0.03	0.25	0.64
Chicago - Washington, DC	591	-0.63	-1.33	-1.88	-0.37	-0.03	0.24	0.75
Philadelphia - Atlanta	672	-0.72	-1.35	-1.73	-0.28	-0.03	0.27	0.59
New York - Atlanta	756	-0.78	-1.39	-1.59	-0.23	-0.04	0.31	0.46
Chicago - Dallas	800	-0.75	-1.36	-1.61	-0.25	-0.04	0.30	0.51
Washington, DC - Miami	920	-0.78	-1.60	-1.74	-0.26	-0.04	0.20	0.30
Pittsburg - Miami	1008	-0.72	-1.48	-2.01	-0.31	-0.04	0.07	0.56
New York - Miami	1091	-0.80	-1.52	-1.75	-0.21	-0.04	0.13	0.31
Los Angeles - Dallas	1240	-0.79	-1.40	-1.60	-0.22	-0.04	0.30	0.45
New York - Houston	1432	-0.80	-1.40	-1.61	-0.22	-0.04	0.31	0.48
Seattle - Chicago	1731	-0.78	-1.38	-1.64	-0.22	-0.04	0.25	0.52
Los Angeles - Chicago	1740	-0.81	-1.42	-1.55	-0.20	-0.05	0.34	0.42
San Francisco - Detroit	2086	-0.78	-1.34	-1.70	-0.22	-0.04	0.26	0.57
Los Angeles - Washington, DC	2288	-0.81	-1.41	-1.60	-0.20	-0.04	0.31	0.46
Los Angeles - New York	2453	-0.83	-1.43	-1.55	-0.18	-0.05	0.34	0.40
Los Angeles - Boston	2600	-0.80	-1.36	-1.68	-0.21	-0.04	0.26	0.55

E_{IJ} = The total price elasticity of demand for Ith fareclass with respect to price of fareclass J.
E_{IJ} = The (partial) price elasticity of demand for Ith fareclass with respect to price of fareclass J,
given the level of route expenditure.
F = First class
S = Standard economy
D = Discount
Source: Oum, Gillen and Noble (1986), Tables 3 and 5.

Table 1 shows the results of a study undertaken by Oum, Gillen and Noble (1986)[1]. Using 1978 data on 200 US city-pair markets, the authors found that "total" price elasticities (which take into account the effects of a change in fareclass price on route total expenditure) were between -0.6 and -0.85 for first class services, -1.3 to -1.6 for "standard economy" services (-1.3 to -1.4 for non-vacation routes and -1.4 to -1.6 for vacation routes), and -1.55 to -2.0 for discount fare services (most of the vacation routes were in the upper half (in absolute value) of the range). There was a slight tendency for first and standard economy to be more price elastic on longer-haul routes. The authors also found that the values of the partial elasticity of demand for first with respect to the price of standard economy and the partial elasticity of demand for standard economy with respect to the price of first were small and negative, and hence concluded that little competition existed between these two fareclasses.

[1] Oum, T, D Gillen and S Noble (1986), 'Demands for Fareclasses and Pricing in Airline Markets', *The Logistics and Transportation Review*, 22(3); pp195-222.

Table 2
Values of Price Elasticity of Demand for Passengers Travelling on Standard Economy and Discounted Tickets Estimated by Oum, Zhang and Zhang (1993)

Chicago/O'Hare to	Distance (miles)	Elasticity
Grand Rapids	134	-1.671
Des Moines	306	-1.475
Omaha	423	-1.492
Buffalo	467	-1.515
Rochester	522	-1.542
Tulsa	587	-1.564
Wichita	591	-1.623
Syracuse	601	-1.553
Oklahoma	692	-1.523
Albany	717	-1.543
Hartford	778	-1.356
Providence	842	-1.581
Austin	972	-1.589
Phoenix	1440	-1.241
Tucson	1441	-1.523
Las Vegas	1521	-2.032
Reno	1680	-2.336
Ontario, CA	1707	-1.500
Sacramento	1790	-1.589
San Jose	1837	-1.461

Source: Oum, Zhang and Zhang (1993), Table 2.

The findings of Oum, Zhang and Zhang (1993)[2] are presented in Table 2 above. Using standard economy and discount fareclass data only (aggregated and treated as a single output) on 20 Chicago/O'Hare originating routes on which either American or United had a monopoly, or where together the two carriers had a market share exceeding 90 per cent, over the period 1981 to 1988, the authors found that price elasticities ranged between -1.24 and -1.67 for non-vacation routes (estimates for Las Vegas and Reno were -2.03 and -2.34 respectively).

[2] Oum, T, A Zhang and Y Zhang (1993), 'Inter-Firm Rivalry and Firm-Specific Price Elasticities in Deregulated Airline Markets, *Journal of Transport Economics and Policy*, May; pp171-192.

Virgin Atlantic is aware of only two recent studies in which the price elasticity of demand for (international) air travel is examined.

Table 3
Values of the Price Elasticity of Demand for Passengers Travelling on "Business" and "Leisure"
Australian Productivity Commission (1998)

	Business Travel		Leisure Travel	
Country	Foreign Arrivals	Australian Departures	Foreign Arrivals	Australian Departures
New Zealand	-0.16	-0.34	-0.68	-0.23
Fiji	*	*	-0.80	-0.53
Indonesia	-0.62	-0.01	-1.46	-0.48
Singapore	-0.22	-0.12	-1.86	-0.54
Malaysia	-	-0.29	-0.78	-0.95
Taiwan	-	*	-0.83	-1.19
Japan	-0.24	-	-0.79	-1.16
Korea, Republic of	-0.20	-0.40	-0.50	-1.14
United States	-0.45	-	-1.85	-0.64
Italy	*	-0.19	-0.56	-0.29
Germany	-0.55	-	-1.23	-0.50
United Kingdom	-0.21	-0.20	-1.79	-0.14

* = Statistically robust models could not be estimated for these countries.
-- = Variable was omitted from model as it added no further explanatory power.
Source: Adapted from Australian Productivity Commission (1998), Table F11.

The results presented in the Australian Productivity Commission (APC) (1998)[3], which were obtained using March 1986 to June 1994 data on international services to and from Australia, are reproduced in Table 3. Price elasticities for "business travel" ranged between -0.01 and -0.40 for Australian-originating traffic and between -0.16 and -0.62 for foreign-originating traffic. Price elasticities for "leisure travel" ranged between -0.14 and -1.19 for Australia-

[3] Productivity Commission (1998), *International Air Services*, Inquiry Report, September.

originating traffic and between -0.50 and -1.86 for foreign-originating traffic.

Park and Zhang (2000)[4], using 1990 to 1994 data on "excursion fares" (fares requiring a two-week stay), found that the price elasticity of demand on North Atlantic routes was approximately -1.07.

The results of these studies suggest that the estimates of the value of the price elasticity of demand Brueckner has used in his study (-1.25, -2.0 and -2.5) and the value of -2.0 that Ordover and Novy-Marx use in their study are likely to overestimate substantially (in absolute terms) the true values of the price elasticity of demand for both non-time-sensitive and time-sensitive passengers. The estimates of the benefits that would accrue to consumers as a result of approving the proposed alliance are therefore, at best, substantially smaller than presented in the Brueckner and Ordover and Novy-Marx studies.

Moreover, the elasticity values for time-sensitive passengers presented in the Oum, Gillen and Noble (1986) and APC (1998) studies suggest that it will actually be profit-maximising for AA/BA to raise interline fares for these passengers. Whether or not they will be able to do this in practice will depend on the extent to which they face effective competition in the relevant markets.

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[4] Park, J and A Zhang (2000), 'An Empirical Analysis of Global Airline Alliances', *Review of Industrial Organization*, 16(4), June.

It is difficult to understand why Ordover and Novy-Marx assumed that the conversion of interline services to online services would also lead to a shift in the demand curve of orders of magnitude of ten, fifteen or twenty per cent, due to improved quality of service. In mature markets such as London-US markets, only an exogenous shock would generate a shift in the demand curve of these orders of magnitude, such as the events of September 11.

It is also the case that in London, even BA on-line connections currently generally involve changing terminals (BA operates mainly from Terminals 1 and 4 at Heathrow, but also provides some services from Terminal 3, for example) and often involve changing airports (Heathrow to Gatwick, or vice versa), substantially adding to passengers' total journey time. On its website, BA states that the minimum connecting time between Heathrow and Gatwick is 4 hours[5]. It is difficult to see how this situation would alter if BA and AA were permitted to determine jointly sub-fares for interline services, particularly given that American operates from Terminal 3 at Heathrow. On-line connections in the US similarly often involve changing terminals. At Chicago/O'Hare, for example, international flights arrive at Terminal 5, whereas American domestic flights depart from Terminal 3. In New York, American international flights arrive at Terminal 8 at JFK and Terminal B at Newark, whereas domestic flights are

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5 http://www.britishairways.com/airportinfo/connections/docs/mn_heath_gatwick.shtml

provided from Terminal 9 at JFK and Terminal A at Newark. Again it is difficult to see how this would be improved if BA and AA were permitted to jointly determine sub-fares for interline services, particularly given that British Airways operates from Terminal 7 at JFK and Terminal B at Newark.

Ordover and Novy-Marx also assume that the supply of air transport services is perfectly elastic, such that at any given price output would increase by an amount equal to the magnitude of the shift in the demand curve. Such an assumption is unrealistic given the substantial sunk and fixed costs inherent in the provision of international air transport services and the lead times inherent in aircraft acquisition.

Of course, the benefits that would arise from the proposed alliance (if any) need to be weighed against the adverse effects the alliance would have on competition in the relevant markets and hence on consumers. Such disbenefits are not mentioned in either of the two papers (let alone their magnitude estimated). The ways in which AA/BA would enjoy market power in addition to that which AA and BA already independently enjoy, and the effects of this increase in market power on competition and hence market outcomes were discussed in detail in Virgin Atlantic's response to *Statement of Professor Alfred E. Kahn*. While we have not attempted to estimate the magnitude of these costs, even a cursory glance at the number of passengers that would be affected (according to the CAA Passenger Survey 2000, almost 10 million in London-

US airport-pair markets alone) compared to the number of passengers that would benefit from allowing AA and BA to jointly set sub-fares for interline services (even under very generous estimates of the price elasticity of demand for all passengers and the magnitude of the shift in the demand curve, and assuming perfectly elastic supply, a total of 214,832 passengers) suggests that it would not take a very large increase in price in a few markets to offset overwhelmingly any benefits.